



Digitized by the Internet Archive
in 2017 with funding from
CLIR

Sullivan, J.

1961 - 1962

Alaska

Catalog: #1 - 79

Journal: 1961

Trapping Data: 1961

Bird Census Data: 1961

Journal: 1962

Trapping Data: 1962

Feeding Observations: 1962

Species Accounts: 1961 - 1962

Sullivan, J.

1961 - 1962

Alaska

Catalog: #1 – 79

Catalogue

Sullivan, J.
1961

June 10 Barrow, Alaska

June 10, 1961

1 ♀ *Phalaropus fulicarius* light fat ova to 7mm wt 54.1g

June 12 2 ♂ *Pluvialis dominica* June 12, 1961 light fat testis 11 mm wt 147.5g

June 13 3 ♂ *Calcarius lapponicus* June 13, 1961 no fat testis 8 mm 26.1g

4 ♀ *Erolia alpina* June 13, 1961 light fat ova to 7mm brood patch present 66.2g

June 13, 1961 5 ? *Asio flammeus* thin 224.0g

6 ♂ *Calcarius lapponicus* testis 7x4 mm 27.3g

June 14, 1961 7 ♂ " " " 7x5 mm 27.6g

8 ♂ " " " 7x6 mm 27.3g

9 ♀ " " 2 eggs laid brood patch present ova to 7mm 29.5g

10 ♀ " " 2 eggs laid (1 very present) brood patch + ova to 2 mm 27.7g

June 15, 1961 11 ♂ " " testis 9x6 mm 29.7g

12 ♂ " " testis 9x6 mm 25.6g

June 15 13 ♀ " " 2 eggs laid brood patch + ova to 6 mm 28.9g

June 13, 1961 14 ♂ *Plectrophenax nivalis* light fat testis 10x6 mm 37.1g

June 18 15 ♂ *Calcarius lapponicus* 4 eggs laid testis 9x6 mm 27.5g

16 ♀ *Ereunetes pusillus* brood patch + ova to 4 mm 26.0g

17 ♂ *Calcarius lapponicus* testis 9x6 mm 23.9g

18 ♀ *Phalaropus fulicarius* 3 eggs laid ova to 16 mm 52.0g

19 ♀ " " 4 eggs laid ova to 2 mm 55.1g

June 19 20 ♂ *Arenaria interpres* brood patch + medium fat testis 6x4 mm 103.8g

June 18 21 ♂ *Erolia alpina* brood patch + moderate fat testis 8x5 mm 59.9g

June 23 22 ♂ " " brood patch + testis 7x4 mm 59.0g

June 19 23 ♂ *Ereunetes pusillus* brood patch + testis 6x4 mm 25.4g

June 18 24 ♀ " " brood patch + ova to 25 mm 37.2g

25 ♂ *Calcarius lapponicus* brood patch + testis 7x6 mm 29.1g

June 19 26 ♀ " " " " ova to 20 mm 32.1g

Sullivan, J.
1961

Catalog

June 20 Barrow, Alaska

- 27 ♂ *Erolia bairdii* brood patch + testis 5x3mm 46.6 g
- June 24 28 ♀ *Erolia alpina* no fat brood patch + ova to 2mm 61.7g
Low center polygon area South Wohlshlog Pond edge
- June 25 29 ♂ *Phalaropus fulicarius* brood patch + testis 9x5mm 42.7g
100 yards N of Receiver site light fat
- 30 ♂ *Erolia melanotos* molt moderate fat testis 9x5mm 88.9g
Central Marsh - below beach ridge - from a flock of 7.
- June 27 31 ♂ *Erolia melanotos* body molt testis 10x6mm 84.0g
- 32 ♂ *Calcaricus lapponicus* testis 7x4mm 26.6g
- 33 ♂ " " apparent brood patch + " 10x6mm 27.5g
- 34 ♀ " " brood patch + ova to 1mm 23.6g
- June 23 35 ♂ *Erolia melanotos* Molt testis 9x3mm 82.2g
Pin feathers on back + neck
- June 26 36 ♀ *Erolia melanotos* brood patch + ova to 2mm 63.1g
4 eggs laid
- 37 ♀ *Phalaropus fulicarius* ova to 1mm 56.7g
- 38 ♂ " " injured wing brood patch + testis 10x3mm 36.7g
- 39 ♀ " " 4 eggs laid ova to 1mm 56.7g
- Oct 26, 1960 40 ♀ *Lemmus trimacroratus* ¹¹⁸⁻²⁰ (1040 of Mullen) 32.7g
- Oct 27, 1960 41 ♂ " " 120-16 (1540 D.A. Mullen) 34.3 g
- 42 ♂ " " 124-19 (1541 " " ") 36.6g
- Nov. 1, 1960 43 ♀ " " 117-17 (1041 " " ") 34.9g
- Dec 18, 1960 44 ♀ " " 121-18 (1042 " " ") ^(Pitt Point) 41.4g
- June 28 45 ♂ *Calcaricus lapponicus* testis 4x4mm 30.0g
- 46 ~~*Lemmus trimacroratus*~~
- July 1961 46 ♀ *Erolia alpina* 1-2 hours old chick 1-2 days old 8.1g

Catalog

Sullivan, J.

1961

Barrow, AlaskaJuly 7 47 ♀ *Erolia melanotos* brood patches + molt. ova to 1mm 72.9gJuly 9 48 ♀ *Erolia bairdii* Pitt Point, Alaska moderate fat ova to 1mm 44.0g49 ♂ *Erolia melanotos* " " " moderate fat Testis 3x2mm 70.8g

Molt: crown - 0; dorsum - 0-A, B; rump - 0-A throat - 0; breast - 0-A

50 ♀ *Erolia alpina* Pitt Point, Alaska ova to 1mm 54.6g

Brood patches +

July 12 51 ♂ *Erolia alpina* Pitt Point, Alaska testis 3x2mm 54.1g

Brood patches +

52 ♀ *Ercunetes pusillus* Pitt Point, Alaska ova to 1mm 30.5g

moderate fat

Barrow, AlaskaJuly 19 53 ♂ *Erolia alpina* Testis 3x2mm moderate fat 56.0g

Brood patch + South of Wohlschlag Slough

54 ♀ *Erolia alpina* Juvenile sex undetermined 36.8g

South of Wohlschlag slough

55 ♀ *Erolia alpina* Brood patch + ova < 1mm 54.8g

1 of a flock of 5

July 21 56 ♀ *Erolia alpina* juvenile moderate fat 55.3gJuly 21 57 ♂ *Erolia bairdii* juvenile 22.3gInaru River, AlaskaJuly 58 *Dicrostonyx groenlandicus*July 24 59 ♀ Cape Simpson, Alaska ova < 1mm 223.1g

Regressed

Brood patch + (old) Wet marshy tundra 1 mi east of Lake Minga

July 25 60 ♀ *Mustela rixosa* Cape Simpson, Alaska 39.9g

TL 143 HF 16 ear 4 mm By a lake shore 1 mi east of Lake Minga

No embryos Left uterine horns: no scars ovary: 8 follicles (large) 1 oocyte

Rt. " " " " " : 4 corpora albicantia

Stomach: Lemmus trachea + larynx (adult); 5 juvenile feet - Lemmus

Apparently an adult pregnant ♀ Lemmus had been taken.

Catalog

Sullivan, J.
1961

July 28 61 ♂ Ereunetes mauri juvenile Gull Lake, Alaska testis < 1mm 22.7g

Taken on island on Gull Lake SE of Pitmegea River
Barrow, Alaska

July 31 62 ♂ Erolia alpina juvenile Testis < 1mm 49.8g

In a flock of 15-20 R-b-s.

July 30 63 ♀ Ereunetes pusillus ovary minute moderate fat. 21.0g

August 2 64 ♀ Arenaria interpres Juvenile moderate fat
ovary minute 102.1g

From a flock of adults + juveniles

July 31 65 ♀ Phalaropus fulicarius Juvenile moderate fat
ova < 1mm 43.6g

August 15 66 ♀ Erolia alpina juvenile moderate fat
ova < 1mm 49.6g

North of Footprint Lake

Catalog

Sullivan, J.
1962

Barrow, Alaska

T.L. H.F. Tail Ear

19 June 72 Subad ♂ Lemmur 45.1g 130-14-8-9 Testis 11x6

19 June 73 Subad ♂ Lemmur 48.8g 135-16-12-6 Testis 10x6

20 June 74 Subad ♀ Lemmur 38.7g 111-12-8-8 Ova - minute

Animal from live colony (Mullen's) - found dead in cage (Kept with others). Some tooth punctures in skin.

21 June 75 Subad ♂ Lemmur 40.7g 131-15-9-6

WAINWRIGHT, ALASKA

23 June 76 Subad ♀ Dicrostonyx 53.9g 138-13-8-

embryos 2/2 vag closed embryos 11 mm pelvic closed.

77 Ad ♂ Dicrostonyx 62.4g 143-21-9-
testis 9x6

25 June 78 Ad ♂ Dicrostonyx 64.8g 147-21-6
testis 9x6 Trap site I 2.6

23 June 79 Ad ♀ Dicrostonyx 56.2g 130-16-9-
3/5 embryos 12 mm pelvic - open
Trap site IV - 6.6

Sullivan, J.

1961 - 1962

Alaska

Journal: 1961

Journal

J. Sullivan

Barrow, Alaska

June 9, 1961 Arrived at Barrow at 2:10 P.M. Some cloud cover on flight up from Fairbanks, but visibility good enough for some impressions. Brooks Range still snowy, also seemed quite rocky. Tundra north of Brooks - covered by low vegetation, interspersed by lakes of ice/water. Went with Holmes after supper along beachridge + central marsh. A number of Bairdi sandpipers observed (scaly, dark legs, bill). Pectorals - song - "oop, oop, oop". Red-backed - dark spot on belly. Snowy owl ♀ flew west across central marsh. Pomarine jaeger (3?) single birds cruising-hunting in vicinity of central marsh.

Snow + ice receding rapidly, apparently ahead of 1960. Arctic fox seen - ran ahead of wheel - stopped to look back a couple of times.

June 10, 1961 With Holmes went south of ARL toward village of Barrow. Holmes tried insect sampling - 2 methods: (1) lie on canvas: observe 1 sq meter for 15 minutes record insects. (2) Dip pail in pond muck. Bring back sample to be probed through in lab. Found 3 Tipulids, 1 Chironomid by latter method. After noon meal Holmes and I visited live-trapping areas: (1) toward central marsh. (2) along gas line - above + west of marsh (on ridge).

Journal

J. Sullivan
Barrow, Alaska

June 11, 1961 Morning. worked on field notes. Read paper concerning Barrow area. after noon meal walked out along gas line to trapping areas. Snow buntings flew close (1 pr). Mostly saw Bairdi's - display. A group of 5 Pomarine jaegers on water south of central marsh area. Found a dead jaeger west of ridge bordering central marsh. Looked at snap trap lines. 6 snap traps were still out along 1 line - 1 still set. Returned to lab at 4:20 PM. Mullen came in reported seeing a "teal-like" duck near slough south of drum area. Holmer with 16 gauge and I went out w/ Mullen + Chamberlain for a look. 2 groups of pintails were seen. I spotted a brown lemming running through sedges - then swimming in shallow water. Grabbed the animal and gave it to Mullen. It was a pregnant ♀.

Semipalmated sandpipers were present in this area. Also a pair of oldsquaws in slough. The "Teal" was not seen.

June 12 Barrow. Assembled, coated + baited 6 packs of 153 museum special snap traps, for use starting this evening (Chamberlain helped). After noon meal mounted red phalarope + a golden plover (collected

Journal

Sullivan, J.
Barrow, Alaska

by Chamberlain). Snap traps were set after evening meal. Mullen, Chamberlain, and I set 4 rows of 153 traps each.

Total - 612 traps. Numbering method:

^x 0.0 ^x 1.0 ^x 2.0 ^x 3.0 ^x 4.0 ^x 5.0 ^x 6.0 ^x 7.0 ^x 8.0 ^x 9.0 ^x 10.0

^x 0.0 ^o 0.2 ^o 0.4 ^o 0.6 ^o 0.8 ^x 1.0 ^o 1.2 ^o 1.4 etc.

A total of 50 stakes, numbered as above; 3 snap traps were set at each stake. Bait used: a mixture of peanut butter, bacon fat, and clove oil smeared on the trip. Mullen believes one baiting should last the season. 4 jaegers seen in central marsh (while searching for trap line locations). Chamberlain spotted a longspur nest with 6 eggs. Returned about 9:20 PM.

June 13 checked trap lines at 8 AM. I had difficulty locating them alone. Holmes passed in vessel on the way to his study area, and pointed out one set of lines. (IX + X). Capture: 1 Baird's sandpiper. 2 ♂♂ longspurs. 1 Lemming. After noon meal set out live traps - 5 rows of 5 traps, 25 ft apart. The plywood box type trap with a museum special trap to close the entrance was used.

Journal

Sullivan, J.
Barrow, Alaska

Bait (peanut butter, bacon fat + clove oil) was smeared on the treadle. 3:30-5 PM read part of Thompson, D. Q. ¹⁹⁵⁵ - Ecology of the Lemmings, Arctic Institute of N. Am. + part of Pitelkai (1956) Some Problems of Lemming Ecology Studied in Northern Alaska: The 1955 Program Arctic Inst. of N. Am. after eve. meal checked snap traps: one lemming - IX 5.8.

June 14 0800-0945 checked live traps. No lemmings captured. Set out 25 more live traps above in high polygon area farther out along gas line.

after lunch put up a longspur and a Red-backed sandpiper. Fed the carcasses to the wolverine in the west cage.

1800-2035 checked snap and live traps - no lemmings captured.

June 15 0745-1000 checked snap + live traps. 15-20 mph wind was blowing this morning. Fog obscured the sky. Mullen mentioned that an eskimo had brought in a bird - a shorteared owl. It had lain around for some time and was now in the freezer. I put the owl up after lunch. Sex was not determined, the gonads were not identifiable. checked live traps at 1500.

Journal

Sullivan, J.
Barrow, Alaska

no captures.

June 16 Chamberlain and I brought in snap traps
lines I + II, IX + X from 0800-1000. Trapping
results reflected the low in the lemming population:
2 captures (both ♂♂) in 1836 trap-days. More
lemmings have been captured by hand: 7.
Worked on species accounts and field notes till
lunch time. Worked on Calcarium captured
in snap traps this afternoon (see catalog). The
weights of the birds ranged from 27.3 to 28.7g.
Brood patches were in evidence and egg laying
had begun. 1530 - 1720 went to Voth area
in weasel checking on trap line condition.
Lines II A + IV B were under water; lines III A + III B were
fairly dry. Tomorrow these lines will be set.
A ♂ snow bunting was in live trap. He
flew off upon release. Bohneack, the Entomologist
from San Diego State arrived today.

June 17 Checked live traps from 0800-0910 this
morning, once again - no captures. A snowy
owl (♂) flew past from Family Lagoon
area in the direction of beach ridge. Read
Armstrong the rest of the morning. Read Armstrong
and parts of the Handbook of British Birds (IV) this
afternoon. At 1500 Holmes and I went to the

Journal

Sullivan, J.
Barrow, Alaska

Voth Area and set snap trap lines. I spotted a pintail nest with 5 eggs, and Holmer located a red phalarope nest with 4 eggs. A pectoral sandpiper was displaying quite close to the trap lines. At least two sanders flew by (see species accounts).

June 18 Checked snap trap lines III A + III B from 0750-0900. Captured 1 ♀ redbacked sandpiper, a semipalmated, and a longspur. Also located a longspur nest (with 6 eggs); the ♀ was on the nest, and flew off when I approached.

0900-1000 checked live traps - no captures. Strong gusts of wind blowing (25 mph). A third of the traps had been blown over and were reset. Shot a redbacked sandpiper for Holmer's molt study. The egg-laying ♀ in the snap trap had 3 pinfeathers coming in.

Pitelka, 1955 report on Lemming Ecology - hints that substances (presumably essential nutrients) may be tied up in fecal pellets. Thus cycles in population numbers. What about coprophagy? Has this been tested?

1800-1930 Holmer and I checked lines III A + III B. 2 Lemmings captured in III B.

2000-2200 read Thompson's 1955 paper on lemming ecology.

Journal

Sullivan, J.
Barrow, Alaska

June 19 0800-1000 checked snap trap line III A + III B, and live trap sets I + II. 1000-1200 - finished reading Thompson's 1955 Ecology of the Leningra. Processed some longspur and sandpipers. 1300-1600 - helped Holmer count insects in rod samples. 1600-1720 read Arctic Biology. 1800-1930 - checked trap line. A ~~light~~ amount of snow was falling in the Voth Area while checking the traps. It was windy and cold. 1930-2030 worked on field notes.

June 20 0800-0930 counted insects in rod samples for Holmer's shore bird food availability work. 0930-1030 checked snap trap line III A + III B with Holmer and Bohsack. 1030-1605 - Holmer, Bohsack, and I went to Ikroavik Lake, where Holmer has his study plot. Holmer and I did a census of his area. Apparently birds are not nearly so abundant as last year. Weather was alternately cloudy and cool and sunny. 1630-1720 - checked live traps. 1800-1930 - checked snap trap line III A and III B.

June 21 0800-1005 checked live traps and took a census walk along the gas line (between beach ridge and gas line ridge). 1005-1200 - counted insect samples from Holmer's rod. 1300-1435 picked up snap trap line III A and III B.

Journal

Sullivan, J.
Barrow, Alaska

1445 - 1600 - Put up the ruddy Turnstone that had been captured in the snap trapping. This bird was a ♂, and had a brood patch. According to the Handbook of British Birds, Withaby et al., the ♂♂ aid in incubation in the last phase.
1600 - 1710 - worked on field notebook.

June 22

0800 - 0710 - checked live traps - no captures.

0920 - 1200 - counted insects in soil sampler.

1300 - 1700 - counted insects in soil sampler.

Tipulids, chironomids, small annelids, staphylinids, and collembolla seem to be the insects frequently found in these samplers. 1830 - 2300 finished reading Cade's Ecology of the Peregrine and Gyrfalcon in Alaska.

June 23

Processed a number of birds that had been in the back room for a few days. Also closed live traps in preparation for a trip to Wales with Holmes. Counted insects in soil sampler this afternoon. Put up a R-B that had been in back. Birds should not be permitted to lie in back more than a day or two - they soon are too rotten to put up.

Sullivan, J
Barrow, Alaska

Journal

June 24 0800-1100 Holmes and I looked for R-Backed r. this morning between Ukpiuk and Wohlucklag Sloughs. It was cloudy and windy - quite cool. We took 5 red-backs, including one pair. Female phalaropes were seen in flocks of 7 or 8 this morning. Put up one of the 5 specimens. It is best to wait for the blood to coagulate (1-2 hours) before attempting to put up study skins. - Counted insects in soil samples this afternoon.

June 25 Clear and sunny today with intermittent winds 10-15 mph. Went to Voth Area 0800-1000 to check on nesting activity. Both the red phalarope nest and the longspur nest had been robbed. There were no broken shells around - making man a likely suspect. I flushed a bird's off a nest returning in the weasel. I stopped, turned off the engine, and the bird returned to the nest within 30 seconds. In afternoon drove out to central marsh - an arctic loon was fishing on a body of water. Unusual weather at Barrow: the sky can be completely clear and 10 minutes later a good strong sea wind can move a fog in. Ten more minutes and it is clear again.

¹⁹ 2700-2720 went to show - Turbidity. ²¹ 2730-2250 set out snap trap lines.

Journal

Sullivan, J.
Barrow, Alaska

June 26 Holmer and I expected to fly to Waler today, but the trip was postponed till Wednesday. Other people have to be flown out. Mullen and Chamberlain are to leave after lunch for Wainwright to run the snap-trap line.

Counted insects this morning. After lunch put up a pectoral r. Apparently molt has begun in the pectorals. Counted more insects.

1830-2000 checked snap trap lines I + III - no lemmings. Fog had moved in covering central marsh.

June 27 0750-1000 Since Holmer and I are scheduled to leave for Waler tomorrow, I made the census walk this morning. Activity was much lower than last week (June 21). The weather was odd: the sky over the Barrow area was bright blue, the sun beamed down, winds of 15 mph or so rushed across the tundra. On the horizon in all directions were gray clouds. Barrow was in a break in the cloud cover. Parts of the arctic ocean are now clear; ice seems to stick around the shore. After the census, I drove the wheel around a small lake and observed flocks of oldsquaws (see sp. accounts). A pregnant lemming was captured alive and given to Mullen.

This afternoon Mullen and I searched from Voth area to Central Marsh for lemmings - result:

Sullivan, J.
Barrow, Alaska

Journal.

captured 1 pregnant ♀ - which Mullen autopsied. While in the central marsh area we checked the snap traps (1530-1630). The shore ice was gone on return to Barrow - apparently it had gone out around noon.

June 28 The flight to Walee was again postponed - this time until tomorrow. Holmer and I counted insects from his samples this morning.

1300 - 1720 put up lemming skins from a batch of animals collected in 1960 from Oct - Dec.

June 29 Clear and sunny today - good weather for the flight to Walee. Processed some snap-trapped birds while waiting to hear about the trip.

1200 - departed for Walee in the Cessna 180 - Joe Felder, pilot; Holmer; Chester, an eskimo originally from Walee; and I. The weather was favorable - clear and good visibility. We saw small flocks of phalaropes flying near Tundra pools. No concentrations of jaegers or owls were seen - just a jaeger here and there. We saw 4 caribou grazing on the tundra, and a herd of 25-30 belugas just off the coast. The white backs without dorsal fins showed as they broke the surface of the sea. We followed the coast to Cape Beaufort, and then turned south for Kotzebue. Hit some rain and clouds over the Brooks Range which we crossed in the vicinity of Mt. Kelly.

Sullivan, J.

Journal

Barrow → Wales, Alaska

June 29 (cont.) Spotted large numbers of caribou in the mountains (several thousand perhaps).

1500 - arrived at Kotzebue, where we refueled and checked on the weather - and ate in town. Birds seen around the air field: yellow wagtail, western s., tree swallow, glaucous gull, w-c sparrow, (also l.t. jaegers and more g. gulls over Kotzebue Sound). 1715. left for Wales. Weather around Wales was cloudy + light rain. We landed on the beach at 1900. Dwight Tuwak, the village postmaster, and Chester's brother-in-law met us at the beach. Chester went to the village with Tuwak, where he remained until the trip back to Barrow. Joe Tilder flew on to Nome for fuel, planned to return sometime tomorrow. Leonard Peyton, an employee of Alaska Public Health service was at Wales for a short time when we arrived. Peyton, Palmer, and I stayed in a government house next to a weather station man, his wife, and child, who were quartered in the other house. The woman cooked for us during our stay.

Wales is a village of about 120 eskimos (including 80 children). Apparently many of the young people go to the cities - signs of decay are evident. Perhaps half of the houses are empty. Walrus hunting seems to be the important means of making a living at Wales, although

Sullivan, J.
Wales, Alaska

Journal

June 29 (cont.) real hunting also goes on. A school teacher and his wife had just left the village and had not yet been replaced. 2000 Peyton, Holmer, and I set out snap traps - we ran down one Microtus oeconomus (Tundra vole). Set out 14 snap traps.

June 30 Peyton, Holmer, and I went up Wales Mt. - $\frac{1}{2}$ mile behind the village. Rain and cloudy weather continued. Holmer spotted a rock s. about $\frac{3}{4}$ of the way up the mountain - in an area of scattered rocks - and grasses and sedge. Other birds in the area included golden plover, western and Baird's s., l-t. jay, g-c. warbler, redpoll, redbacked s., northern + red phalarope. On top of the mountain we split up, Holmer and Peyton went down the far side & continued toward the south, and later swung down into the valley beyond the mountain - then down the valley back to Wales.

1330 Holmer and I hunted toward Lopp Lagoon. We saw and banded 2 juvenile western s. perhaps 3-4 days old. I saw a yellow-billed loon in a lake $\frac{3}{4}$ of a mile north of Wales. The vegetation appears thicker and plusher here than at Barrow. Continual summer rains should contribute to this. We each shot a downy woodpecker on the way to the Lagoon plus 5 redbacked s. each. The ground was soft and mucky in spots - Holmer

Journal

Sullivan, J.
Wales, Alaska

June 30 (cont.) sank to his knee in one place. Returned to Wales over the same approximate route (1700).

July 1 0800-1200 Holmes and I went back up Wales Mt. - once again rain and cloudy. Holmes went toward the spot where the rock s. had been yesterday; I went directly up and over the mt. There was an old graveyard on top of the mountain - some skeletons were exposed. Skulls of polar and brown bears were also in the graveyard - plus some whale bones. I went on down to the river in the valley away from Wales. It was much higher and impossible to cross without getting soaked. Went back up to the scattered rock area and hunted parallel to the river and to the south in the rocks. Shot a Baird's s. - but no rock s. 1200 returned to Wales. Before we left Peyton showed us a nest of a white wagtail, perhaps the first known nesting in North America, the bird flew up while we were at the nest. The nest was located in an abandoned house, on the 2nd floor (attic). There were 5 smallish brown eggs in it; it was woven of grasses, and rested on a ledge. Peyton had found it with 3 eggs in it a couple of days earlier - and had let it go hoping for more eggs. He planned to collect the bird and the nest before he returned to Anchorage.

Felder, Holmes, and I tried to land by the mt

Journal

Sullivan, J.

Wales, Alaska → Barrow, Alaska

July 1 (cont). River - but the sand bar did not look particularly good and the weather was bad so we gave up the idea. We did fly over much of the river - saw very little bird activity - a few jaegers.

Felder, Palmer, Chester, and I left Wales. 1800 landed at Shishmaref - a tiny eskimo village - on a sandbar just outside of Shishmaref inlet. This village was remarkably neat and clean. Lots of grass and sand, very little refuse and mud. 1830 left Shishmaref.

Herring and glaucous gulls were seen nesting in the rocks off shore in Goodhope Bay perhaps from 2-10 miles west of Deering. 1925 landed at Deering. This is a small village stretched out in a row of houses. Saw eskimos bringing in ice - apparently for drinking water. 1940 - left Deering.

Chester pointed out reindeer on the flight also. They appear more blotched and spottier than caribou. Also - a number of sandhill cranes were feeding on open tundra near the coast. We came close to some yellow-billed loons at one time. Red fox appeared fairly common - I saw 4 between Wales and Kotzebue - 2 of them were of the cross color phase. 2110 arrived at Kotzebue - once again refueled and checked weather. Weather was not particularly good or bad - some clouds ahead, but we decided to spend the night anyway.

Sullivan, J.

Journal

Walee → Barrow, Alaska

July 1 (cont) Strangely, there was no place to eat in Kotzebue (on Saturday night) except "Little Peti Cafe" - where we obtained hamburgers.

July 2 Same problem getting breakfast in Kotzebue on Sunday morning; however, Wieni Tourist Hotel fed us.

Left Kotzebue - flew along coast to Cape Thompson - weather cloudy - a little scattered rain - 1200 - landed at Cape Thompson. Met Frank Williamson, an employee of Alaska Public Health Service, and one of Pitelka's students.

Williamson has been working on nesting studies in this area. He showed us some of his nest diagrams. Ate lunch with Williamson.

1340 left Cape Thompson.

Landed at . This station is restricted, we had to sign in giving our destination and other information. Left for Barrow. Weather was still bad - rain, cloudy. Flew between cloud layers for awhile - ground below and sky above were obscured. We went down through the clouds until the ground was in view - then continued on to Barrow.

1830 arrived at Barrow. Brewer and Schindler were at the airport. Talked about the trip. Unloaded gear from plane to jeeps and returned all to the lab.

Sullivan, J.
Barrow, Alaska

Journal

- July 3 0800-0915 - picked up snap-trap lines III A and III B.
0915-1200 - counted insects in Holmeri pond edge sampler.
1300-1430 - counted insects. 1500-1720 Chamberlain and I put out trap lines IV A and IV B. Clouds above - some wind - ground visibility good. The area in which the lines were located was somewhat wet at the north end. 1800-2030 put out trap lines XIII and XIV in Peiper's fertilized area. This area is fairly dry, Peiper had put fertilizer out over a week ago. Adult crane flies in evidence.
- July 4 0800-0920 - checked trap lines XIII and XIV - no captures. Chamberlain found 1 Lemming in the other line. 0945-1100 picked up live traps (set II) and took census walk along gas line. Activity was lower than last week. Long spurs and snow buntings were most in evidence. Sun broke out of the clouds during the walk. It was pleasant weather. 1110-1130 picked up live traps (set I). 1300-1715 - counted insects and wrote up notes. 1815-1920 - checked snaptraps.
- July 5 0800-0930 - checked trap lines IV A, IV B - 1 Lemming (♂). 0930-1200 - counted insects in Holmeri pond edge sampler - adults are emerging now. Red-bellied s. that we have taken recently (3rd -) have adults in their stomachs. 1300-1500 - counted insects. 1500-1730 Chamberlain and I went out to set trap lines XI and XII, but found XII to be ankle

Sullivan J.
Barrow, Alaska

Journal

July 5 (cont.) deep in water at one end. Stakes were missing from both lines - perhaps $\frac{1}{5}$ of line IX was gone. Weather today is very good - clear skies, a few clouds on the horizon, warm breezes. At Barrow, there is scattered ice lying off shore. Some villagers went out after seals, including Pete Sovalik from the lab. Chamberlain and I checked both sets of snap-trap lines on the way back to camp. 1930-2000 finished a pond edge sample for Holmer's insect count.

July 6 Peiper and I are scheduled to fly to Pitt Point today. Peiper wants to get some rod samples, and I am going to look for lemming populations. Checked trap lines IV A and IV B 0800-0910 this morning. Sky was overcast when I started out, and at 0830 while at the traps it began to rain. A phalarope had been caught in a trap yesterday and was devoured - all but head, legs, and wings. Chamberlain had set a trap by it - but nothing was in the trap this morning. Returning to the lab, I saw and shot a redbacked s. 2 were on high polygons east of the high road. 1000 - rain is increasing in strength - the flight to Pitt Point looks doubtful. After lunch - counted insects for Holmer.

Journal

Sullivan, J.

Barrow, Alaska → Pitt Point

July 7

0800-1200 counted insects in soil samples.

1300-1500 Chamberlain and I brought in the trap lines. Weather varied from sunny and cool to snow. A sizeable flock of jaegers was in central marsh (long-tailed and parusctic) (10-14).

1500-1630 put up birds.

July 8

0800-0930 counted insects in Holmer's soil samples. 1000 Peiper and I were alerted for the flight to Pitt Point - leaving at once. Muller drove us to the airport. 1145 left Barrow. It was clear and sunny in the vicinity of Barrow, but clouds were on the horizon in all directions.

1 ♂ snowy owl perhaps 20-25 miles east of Barrow - sitting on the tundra, flew as we passed overhead. Passed 40-50 caribou on the way to Pitt Point. The antlers of the bulls were large and in velvet. Flew over Pitt Point and saw 1 snowy owl and 3 long-tailed jaegers to the east of the station ($\frac{1}{2}$ mile from it). 1245 landed. 1330-1430 helped Peiper obtain his vegetation and soil samples. We clipped areas of 1 sq. ft. of all their vegetational cover - which was placed in paper bags. Then we took a soil core 3 inches deep and about 5 inches in diameter. A deeper core was also taken (about 8 in. deep x 3 in. dia.). These are to be analyzed for phosphorus and other constituents. 1430-1615 Peiper and I hiked west to

Journal

Sullivan, J.
Pitt Point, Alaska

July 8 (cont.) the shore then south to the summer water haul lake looking for lemming sign. There were lots of old runways and winter nests but very little fresh sign.

July 9 Chamberlain had seen indication of lemming activity by the oil tanks west of the station so I investigated this area this morning. A snowy owl (♀) sat on a knoll just beyond the tanks, but no lemmings were in evidence. Turned south and looked in this direction. I came to a wet area interspersed by pools. Two arctic terns flew at me - a nest somewhere nearby. One of the terns had a small fish in its bill. Both of the birds buzzed me. The wind was from the southeast; a tern would hover about 20 yards downwind and 15 feet in the air. Then it would drop down crying and just miss my head. I spotted one downy chick sitting very still in the water. It moved its head slightly from side to side watching me. I moved closer and the chick swam away. I turned to walk away and the adult hovered near the chick. Proceeded on to a lake some 4 miles south of the station. There were about 10 old igloos on the lake. A red-throated loon was on a small pool near the lake. An arctic fox raised its head above the grass about 75 yards away. It stopped

Journal

Sullivan, J.
Pitt Point, Alaska

July 9 (cont.) and the fox lowered its head - then immediately peered back at me. Apparently it had been sleeping there behind an oil drum. The fox looked a few more times then walked about 3 yards ^{further} away from me, squatted, and urinated. It then loped away, stopping to look back frequently.

Sundays meal was at 1500. After dinner set traps near the oil tanks by the shore. 15 traps were set in a row, 50 ft apart. A snowy owl was in this area. Ptarmigan hen with 5 chicks also there. The chicks were about 3 days old and had some difficulty getting through the grass. The hen stopped and waited for them every few yards. Searched the area for lemmings till 1900 -

July 10 0740-0815 checked traps - no captures. A cat operator had seen lemmings between the station and the shore - I followed the "cat" tracks toward the shore. A ♂ snowy owl was sitting on a hump of ground nearby. Spotted one lemming but it went underground. This particular area was a maze of burrows. Searched entire area around the tracks. At 1110 spotted another lemming some 300 yards east of the first. This one was to the south of the "cat" tracks about 400 yards west of the 2 tanks by the station. This animal was captured, toe-clipped

Journal

Sullivan, J.
Pitt Point, Alaska

July 10 (cont.) and released. It was marked 0000 - ~~adult~~ or.
after release, I followed the animal. at first
it ran off as fast as it could - following
runways. At one time, the lemming lay
flat and motionless in the runway. It
went from burrow to burrow and broke
from cover when I poked around its hiding
place. Maximum distance traveled (measured)
(by pacing) 165 feet. The animal worked and fed at
times when I was not too close (10 feet). It
fed by snipping the grass shoot at its base
with its teeth, then holding the grass in the
forepaw, ate from base to apex of the blade.
Three long-tailed jaegers were also hunting
in this vicinity. A herd of caribou (containing
hundreds of animals) had crossed the river and
was approaching the station.
1500-1630 - set traps in both areas where lemmings
had been encountered. 15 traps were set in
the area where 0000 had been found this morning.
They were set in 3 rows of 5 - 20 feet apart. The
traps were baited with fresh grass as well
as a little peanut butter - bacon fat - dove oil
on the treadle. Looked for the lemmings but
did not see them. 1900 - 2300 went with eskimo
and another fellow while eskimo hunted caribou.
Helped carry back two of the animals - two were

Journal

Sullivan, J.
Pitt Point, Alaska

July 10 (cont.) shot. Caribou weighed between 200 and 300 pounds - they were heavy.

July 11 Clear sunny and hot (76°) today. Mosquitoes active. Checked traps this morning (0830-0940). Hiked to and around summer water haul lake - looking for lemmings. A family of snow buntings were by the 2 wanigans at the side of the road leading to the lake. The juveniles are darker than the adults, and are not yet accomplished fliers. Young longspurs are in evidence on the tundra now - they are also just learning to fly. Hiked east toward the point after lunch - once again no lemmings seen. A few caribou were still around. 1900-2100 moved traps from oil tank area to head of snap-trap line no. 3, where Mullen and Chamberlain had some luck with the snap-traps. 15 traps were placed in runways, 2 traps per stake (1 trap at stake 1.4) along the 1st 8 stakes.

July 12 Complete cloud cover today; also much cooler (37°). While checking traps this morning, I noticed a number of owls - more than the usual pair. Counted 5 owls in view at one time. Preying on young birds? or lemmings? A pair of red-throated loons were on the small

Journal

Sullivan, J.
Pitt Point, Alaska

July 12 (cont) Lake west of trap-line 3. They flew up and circled over as I came near. They returned and landed in the lake.

After lunch (1230) Luetzow, an employee at Bow 1, and I checked the trapline. Luetzow, an immigrant from Germany, wanted to see a lemming up close. Unfortunately there were none in the traps. However on the way back to the station we spotted a lemming which was run down - I grabbed it - an adult ♀ - gravid? Mammarys not prominent. I decided to keep the animal - since Mullen was in need of all the specimens he could get - and the mark-release program had not given any results so far. She was dropped into one of my gloves for the return to the station. There I established the lemming in a waste can (fairly roomy) - and supplied her with: lab chow, lettuce, celery, apples, and toilet paper for a nest. 1515-1630 looked around in the dry lake bed a little. Small flocks of pectorals and large flocks of phalaropes. Took a r-b-s., a pectoral, and a semipal. s. for study. Rained a little this afternoon.

July 13 Lemming has survived so far - made some

Journal

Sullivan, J.
Pitt Point, Alaska

July 13 (cont.) mouse last night trying to claw its way up the sides of the waste basket. Checked traps this morning - once again no captures - placed a chunk of apple near the treadle in hopes of attracting animals. 1000-1200 worked on notes. After lunch hiked south to a large lake. A semipalmated sandpiper was displaying by the lake. He flew up about 100 feet - fluttered his wings and gave the "motor" song. Cloud cover broken today - some sunshine. 1330-1630 - traps still empty.

July 14 0810-1000 checked traps - no captures. After inspecting traps, looked over dry lake and parts of the ridge surrounding it for lemmings. Some of the burrows looked so promising, I tore them open - but found no animals. Cool and clear this morning (37° with clouds on the horizon). 3 more semipalmated s. gave half-hearted displays. They flew up fairly close to each other (about 10 feet apart), seemed to begin singing - then let the wind carry them for 50 yds. or so - then alighted. Checked traps after lunch (1300-1400) - no captures. The captive animal still appears to be in good health. Has been eating cat chow and apple in particular - some fresh greens as well. Worked on Journal this afternoon.

Sullivan, J.

Journal

Pitt Point, Alaska → Barrow, Alaska

July 15 cloudy and raining this morning, temperature 55°. Picked up traps in preparation for return flight to Barrow (0830-0930). Called office (ARK) about flight. Return call to let me know if and when the trip will be made. Felder, on his return from the Colville was to pick me up sometime in the afternoon. 1230-1330 picked up remainder of traps and finished packing. Felder arrived at 1430 in Cessna 180. Weather still not good - clouds at about 300 ft - then more clouds higher up. Saw a herd of about 35 caribou, 40 miles west of Pitt Point. Arrived at Barrow at 1530. Worked on field notes and unpacked.

July 16 Barrow, Alaska Holmer had a brand new sample (no. 10) to be sifted through for insects. Tipulid numbers seem to be down - many have emerged. Entire day was spent in counting insects in these soil samples.

July 17 Trip to gull lake is scheduled for today. Fisher is to fly Kullen, Holmer and I in the Cessna 180 float plane. There is an island in this lake on which a colony of glaucous gulls nested last year. Maher and Holmer flew down last year and removed all droppings, animal skulls, etc. This year Holmer and I hope to do the same - getting a 1 year (or nesting season). Weather was not promising, but we took off anyway - Fisher decided we could fly down and see how thick the

Journal

Sullivan, J.

Barrow, Alaska → Bull Lake → Barrow

July 17 (cont.) cloud cover was in that area. Reports had not been favorable. A few owls and jaegers (scattered) were seen on the way down. We soon were in the rain and around noon Fisher landed us on a small lake in order to put some fuel in the plane. The area south of Cape Beaufort and Light A seemed heavily covered with low clouds so we headed back to Barrow. Landed at Barrow at 1500. Worked on Holmei soil sampler till 1700.

July 18 Raining and cool this morning - made census walk 0800-0930 - tundra was quite still - an arctic fox hunted to the west of the gasoline. Counted birds in Holmei sampler. 1130 went to airport to see if Pitelka was on Wien plane - apparently did not make the connection in Fairbanks. This afternoon we finished sample 10.

July 19 Holmei and I went on a collecting trip south of Wohlsehlag Slough this morning. Weather - cloudy. Took specimens of red-backed sandpipers in particular. Banded chicks of the r-b, plus collecting 2 of the chicks. Also banded one ruddy Turnstone chick, and took a ribling. Holmei and I met Pitelka at the airport at 1130. This afternoon we tag a r-b chick and an adult (both taken this morning). Began the 2nd running of the snap-trap lines this afternoon. Put out lines I and II on Eastline Ridge. I saw a track on weasel 366 on the return

Journal

Sullivan, J.
Barrow, Alaska

party. Werner von Braun and party arrived at Barrow today. There was a reception in the library from 18:30 to 2000.

July 20 0800-0930 checked trap lines - 1 r-b sandpiper chick taken - no lemmings. Weather - cool and cloudy. 1000-1200 Put up a r-b s. Counted insects after lunch (sample 11). A cold rain began to fall around 1400. Set out snap-trap lines IX and X plus checking lines I and II this afternoon. 1 longspur was taken.

July 21 Snowed last night and was still snowing at 0730 this morning. Checked traps 0800-0930. Lines I and II on Bar Line Ridge were hidden under the snow (the traps). IX and X traps were partially visible. Just south of lines IX and X, a Bairdi's s. gave distraction display (flew up called - little wing flutter). 2 chicks were with the adult. Took the adult and 1 chick; the other escaped. Counted insects in Holm's sample the rest of the morning and from 1300-1430. Put up a large (55.3g) juvenile r-b s. after that. After supper put up a *Diurostonyx* skin (taken by Mullen + Chamberlain at the 2 narrows).

July 22 This morning Pitelka went along while I checked the trap lines. 2 longspurs in lines. Pitelka

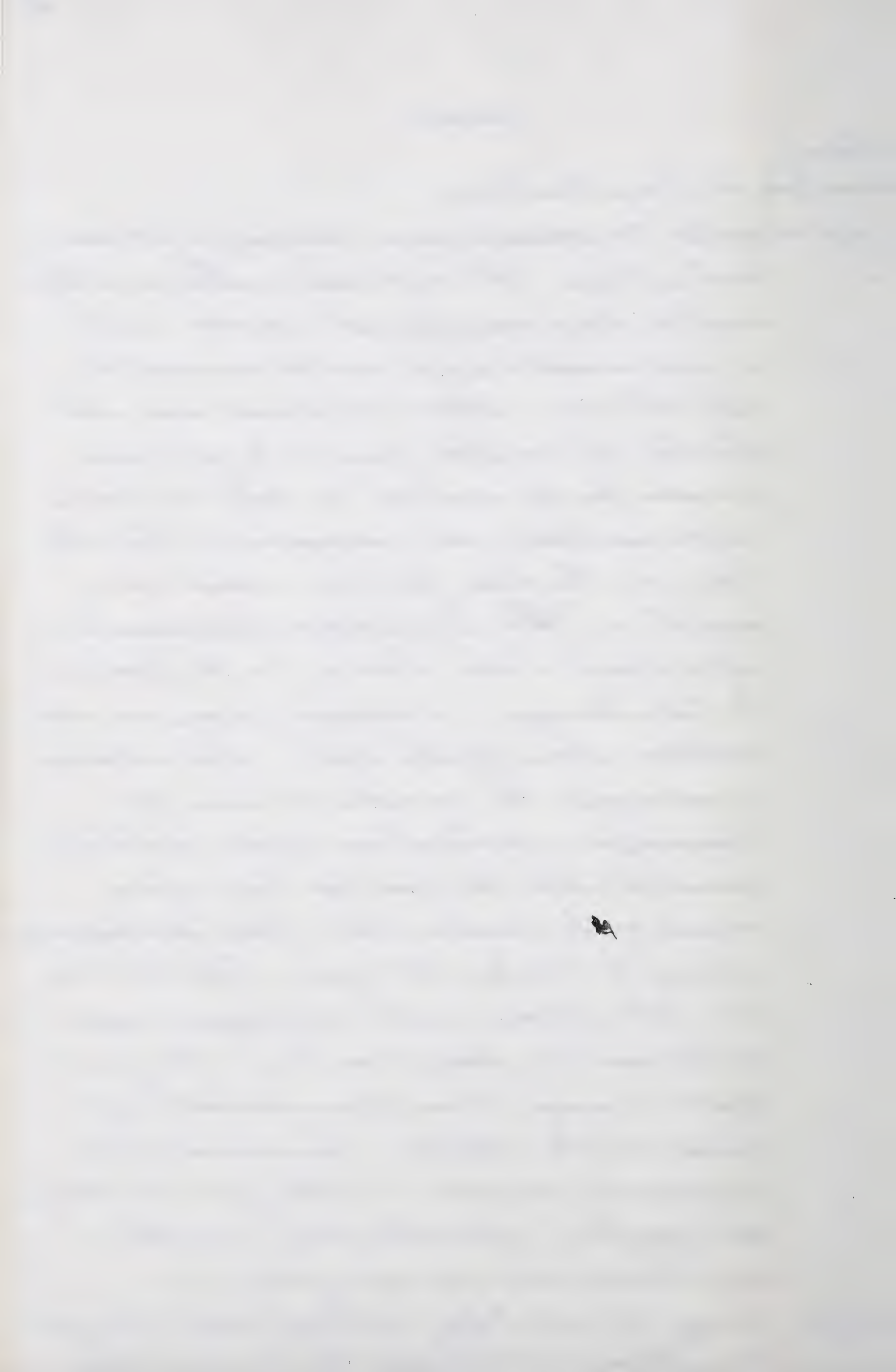
Journal

Sullivan, J.

Barrow, Alaska → Lake Minga, Cape Simpson

July 22 (cont.) spotted two parasitic jaegers harrying a fox near Bar Line Ridge. The snow had melted completely and the traps were exposed. Counted insects in rod sampler and worked around the lab till 1200. About 1130 Brewer came into the lab. he needed someone to go to Cape Simpson for the weekend to help out Durham (whose assistant was coming out). Also set traps in the area for fox - which were needed in Folk's physiology experiments. After lunch Fisher flew me in the floatplane to Lake Minga - Durham's camp was on the eastern shore of the lake. After unloading I surveyed the immediate area for lemmings - captured one under an old oil drum (ad ♀). Set the fox trap (live) by a mound on the tundra that had fox droppings around it. Durham at supper stated that there were lots of foxes, owls, and jaegers around. He had seen two foxes at one time: The first night in camp he and his assistant had chased one into a drum. The animal had growled and escaped - another fox was watching this operation. After the first 2 nights in camp Durham saw no more foxes.

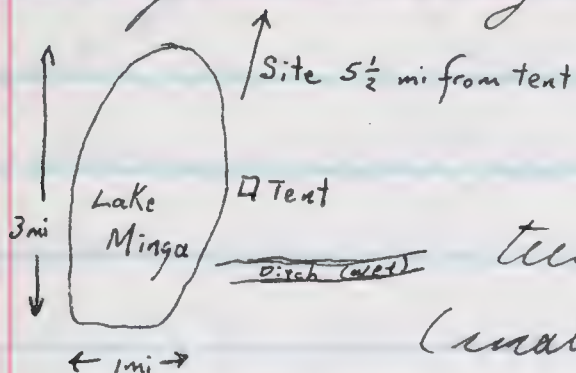
July 23 Sunny and warm today - southerly wind. Surveyed to south and SE of the tent for lemming sign.



Journal

Sullivan, J.
Cape Simpson, Alaska

July 23 (cont) The test is located on the eastern shore of Lake Minga - midway between the north and south shores. The immediate area is flat - some wet marshy tundra - some dry. Lakes (smaller than Minga) are located all



around. Lemming sign was not particularly good. Some winter nests, old runways and old burrows were in evidence. Saw an arctic fox about 1 mi. east of camp. It ran off to the south. There was a ditch that had been cut out by man about 200 yards south of the tent - and running $1\frac{1}{2}$ mi. east. Fox droppings and owl pellets were common along the ridge bordering the ditch. Saw 2 snowy owls and 2 pomarine jaegers. The owls sat on mounds - apparently watching for prey; they flew off as I approached. The jaegers seemed to be hunting - flying low and occasionally swooping to the ground. Black coast gulls were around. Pectorals were common and in large flocks (40 or so). Also similarly sized flocks of red phalaropes. Some Baird's and semipal. were present.

after lunch helped Durham with his lake work. We had a canvas boat and a small outboard (40 or so). We cruised to the south end of

Sullivan, J.

Cape Simpson, Alaska

Journal

July 23 (cont.) the lake. Durham was interested in obtaining specific gravity and temperature of the water at the surface, at 1, 3, 5, 6 feet in depth and at the bottom. Six and a half feet was the deepest part of the lake recorded. Temperature ranged from $5-7^{\circ}\text{C}$. We also dragged a plankton net while I rowed for a few 100 yard tours. In this way, Durham was sampling the plankton in the lake. The 0-3 ft range was productive of a few zooplankton. Deeper samples and bottom samples seemed to contain no life - or mud. The weather remained good, though the wind from the south impeded progress in that direction. We went ashore at the south end of the lake. Here was more wet tundra. Caribou tracks were common. On the return to camp a yellow-billed loon flew over. A flock of 30 common eiders also flew low over the lake moving to the west.

After supper set the fox traps around the wooden box ~~that~~ contained the captive lemming. Then put anise oil on the box itself and scattered some meat around. Went east of camp a few hundred yards and shot 3 pectorals, and a phalarope. Merganser quite active this evening.

July 24

Cloudy this morning; wind still from the south. There is a "hill" with a cabin on it about 2 mi. east

Journal

Sullivan, J
Cape Simpson, Alaska

July 24 (cont.) of camp. Decided to hike over to the cabin today.

It was still warm and the mosquitoes and crane flies were moving around. In a wet marshy area, a black-bellied plover (white rump) flew up and alighted some 50 feet away. Took it for a specimen. The tundra sloped gradually up to the cabin and was drier on the higher part of the slope. Small tundra pools with phalaropes, r-b.s., pectoral s., Bairdi s., and semipal. s. were scattered below the beginning of the slope.

Three pomarine jaegers flew toward me from the north. Two of them passed closely overhead calling. Then the 3 commenced hunting - flying low and swooping over the tundra. One of them badgered a snowy owl, that flew toward the cabin. The jaegers pursued. The owl alighted on a high mound; the jaeger dived at it with a screech. The bird moved on out of sight behind the hill. Saw about 100 caribou feeding some 300-500 yards to the SE from the top of the hill. Bulls in velvet. The "cabin" was actually a wanigan - 4 ft high and 10 ft x 8 ft.

The interior was bare - a built in bench, and old equipment lay all around the outside. Rain clouds were moving in from the SW so I started back to camp. Some rain fell on the way back. No new species seen. Durham talked about Maki's

Sullivan, J.
Cape Simpson, Alaska

Journal

July 24 (cont.) lake project. Apparently Mohr may send someone back next summer on the same project.

After supper surveyed area south of camp for lemming activities - saw no lemmings - only signs of last winters and last years activity.

July 25 Rain and wind during the night. The tent held up, however. The plane was supposed to pick Durham and I up last night or yesterday afternoon so it may arrive today. Durham stayed at camp in case the plane arrived. After breakfast, I hiked east about 1 1/2 miles - went around the north end of the fresh water lake to the east of Minga. 2 Golden plovers fed along the shore of the lake. The area was wet and marshy. East of this small lake is another larger lake. I saw a least weasel running along a burrow where the shore dipped down to the lake. It was a tiny animal - very alert, fast-moving, and nervous looking. Squeaking brought the weasel in closer. It reared up on its hind legs to look at me. Soon it disappeared into a burrow. After about 5 minutes the animal reappeared and was taken for a specimen. 3 snowy owls and a few glaucous gulls were in evidence this morning. Some juvenile longspurs (flying) were feeding along the high polygon. They kept in close

Sullivan, J.

Journal

Cape Simpson, Alaska → Barrow, Alaska

July 25 (cont.) contact with one another. Got back to camp at 1300 and 10 minutes later a low flying float plane buzzed the tent roof. Zimmerman had arrived to take Durham and I back to Barrow. It was windy (10-15 mph) and the lake was a little rough. We left the tent and some gear behind to facilitate take-off. The weather was overcast and windy on the way to Barrow. Saw a few scattered caribou, snowy owls, oldsquaw ducks, and phalaropes. Just before landing a fog moved in and covered Barrow - the lake ^(landing) was clearly visible at the eastern shore; and the hangar on the western shore was barely visible. Cleaned up and after supper went with Chamberlain to check the snap-traps (on Beach Ridge and in Central March).

July 26 Worked on notes this morning. Also walked out on the tundra (near the receiver site - toward trap lines IX and X) with Pitelka, Schultz, and Jenny. Looked over the vegetation and talked about setting up a survey of plants and their utilization by the lemmings. Idea was to set up a 2 meter transect and with a pin-drop apparatus to measure abundance, density, species, etc. of plants present. First the apparatus must be built.

After lunch put up the black-bellied plovers.

Journal

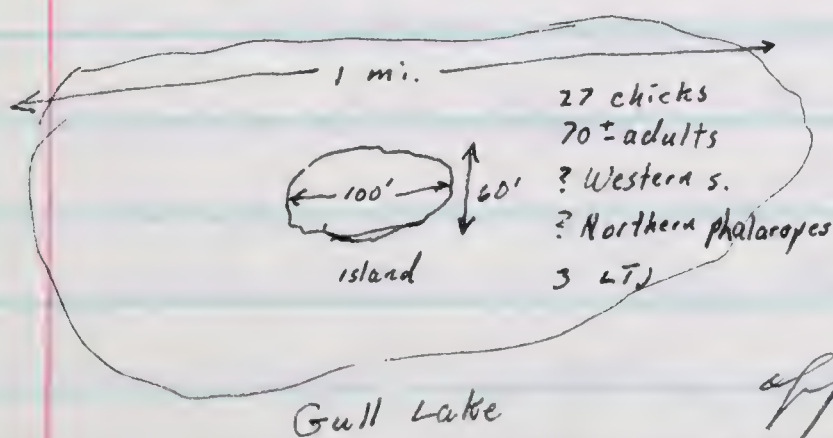
Sullivan, J.
Barrow, Alaska

- July 26 (cont.) and the least weasel taken at Cape Simpson. Schultz showed slides concerning his project on chemical constituents of soils, plants, and animals (mainly dealing with phosphorus) and Mullen spoke on his work after supper.
- July 27 Worked on Taxonomy of grasses and field notes this morning. Pitelka and I went to the field (toward trap lines IX and X) and considered plans for the vegetation survey. Worked on the pin-drop apparatus in the afternoon. Saw Kenny Twok about making some pins and drilling holes in 2 meter sticks and 2 other 1 meter boards. These should be ready tomorrow.
- July 28 The trip to Gull Lake may be today - weather at Barrow is foggy but better to the SW. Worked on grasses till 1030 when Hultén, Holmes and I were alerted for the flight. Took off at 1120 in the float plane - Zim was the pilot. Saw a ♀ snowy owl just past the monument, a ♂ " " west of Wainwright - and 1 more owl farther west. The foggy weather was mostly NE of Wainwright - so we were soon in the sun. 2 gray whales were spotted by Holmes lying just below the surface - and breaking through for air a couple of times. We circled over

Journal

Sullivan, J.
Barrow, Alaska

July 28 (cont.) the animals once. There was a grizzly on the shore just SW of the Pitmegea river. It looked up as we passed. Winds were strong along the coast. Turned south to the lake just beyond the river - all Lake is located just beyond some low hills to the south of Cape Sabine. The lake is about 1 mile long and there is a small island on it. We could see glaucous gulls dotting the island as we flew nearer. Our objective was to band the chicks and to collect all scraps of bones and pellets that were on the island. Last year Maher and Holmer had cleaned off the island - so we should be able to determine what the colony had eaten in one year. We landed then let the plane drift in to the island. Unfortunately the chicks were large enough to swim - and all but 4 escaped into the water. We banded the 4. We counted 27 chicks and 64 adults, but there were probably $70 \pm$ adults present. Other birds:



(a few)
western s., northern
phalarope - sizable flock,
jaegers - 3. It took
about $1\frac{1}{2}$ hours to clean
off the island. Hutton
meanwhile was collecting

Journal

Sullivan, J.
Barrow, Alaska

July 28 (cont.) plants on the mainland. Some of the obvious foods of the gulls were: arctic ground squirrels, ptarmigan, lemmings, fish, crabs, small birds, parts of caribou, a sand dollar. We took 5 western r. for specimens. Jim came to take us to the mainland where Palmer and I had about 15 minutes to look around. Dr. Hultén was scheduled for a seminar at 200 so we had to start back. The weather at the lake was comfortable (around 50°F. with an 8-10 mph wind). Hultén had 3 racks of plants that he had collected. He pointed out some *Arctophila fulva* that was much larger than that at Barrow. Left Gull Lake at 1730. Saw many caribou on the return trip. Also 3 snowy owls fairly close together about 5 mi. SW of the downed tower. Barrow weather was bad - rain, fog, and cold. We arrived at 1940.

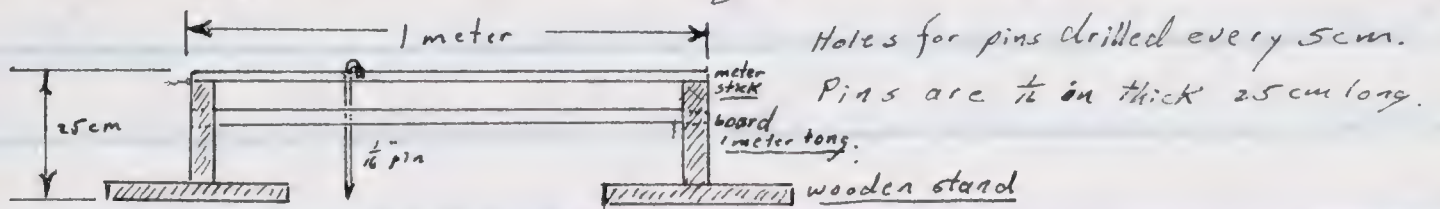
Hultén's seminar concerned The Distributional Conditions of the Flora of the Bering Sea Region. He contended that land bridges were of great importance in the distribution of plants on what is now 2 continents. Cited an example of a volcano that had risen in 1700 some 15 mi. north of the

Journal

Sullivan, J.
Barrow, Alaska

July 28 (cont) Aleutian and was covered by algae and by 4 other sp. of plants (all easily transported by salt water).

July 29 Went to the shop and picked up the pine and drilled meter sticks this morning. Then completed building the apparatus.



Use: As the pin descends to the ground surface - the no. of grass blades touched (their sp. + how many plants are involved) are recorded. Over the course of a season one should be able to determine changes in plant density, effects of lemming utilization of certain individual plants, and perhaps other information. The transects are to be 2 meters long and a number (undetermined at present) will be placed in each habitat type at Barrow. Emphasis will be given to those habitat types that are of known value to the lemming.

Sorted insects in soil and pond edge samples for Holmes this afternoon. After supper checked trap lines III A, III B; IV A, IV B; V and VII after supper - nothing at all in traps.

July 30 Bright, warm sunny day today. Checked trap lines - captured 1 ad ♂ lemming III A 4.6. also

Journal

Sullivan, J.
Barrow, Alaska

July 30 (cont.) 2 juvenile longspurs. Pitelka and I tried out the pin drop apparatus behind the lab. The braces kept the meter stick too high above ground. The pins would not reach to the soil surface. Pitella suggested fixing this first and then trying later this afternoon. Chamberlain and I lowered the overall height of the apparatus to 21 cm.

after lunch Pitelka and I measured 5 transects - 2 meters each and surveyed them with the pin-drop ap. Method:

1. Place end of p.d. ap. against stake.
2. Drop pin to surface of ground.
3. Record all vegetation touched by the point of the pin as it descends. Record as to species and whether living or dead.
4. Continue 3 above at each 5 cm interval.

We surveyed the 5 transects this afternoon. Weather turned cooler and overcast in late afternoon. Tundra is wet when one kneels or squats to do the above work.

July 31 Rained hard last night and early this morning. Checked snap-trap lines: captured 2 juvenile Lemmings. The rain had sprung a majority of the traps and it took 3 hours to reset them. It was still raining, windy and cold while working on the lines (0800 - 1100). Cleared around noon and then a very strong wind sprang up.

Sullivan, J.
Barrow, Alaska

Journal

July 31 (cont.) Put up a western, r-b juvenile, and a semipal. s. this afternoon. Also helped Holmes on his insect survey work. The trap lines IIIA, IIIB and IV A, IV B are to come in tonight after supper. Cold, rain and driving wind after evening meal - decided to check lines only - and to bring them in in the morning.

August 1 Chamberlain and I brought in lines III A+B, IV A+B, XI and XII this morning. Weather: cold, windy and occasional rain. After lunch sorted insects in rod samples for Holmes. Put up birds.

August 2 Took census walk along gas line this morning. Weather turned clear and sunny. Very little activity on the tundra: 9 long spurs, 2 RT loons, 1 glaucous gull. Pitelka left just before noon today. Put up birds after lunch. The sun went down for the first time this summer tonight.

August 3 Assembled materials for a plant press today. Blotter and corrugated cardboard were obtained from warehouse 38. Karl Stone went along - the materials are kept locked. Some blotting paper is also kept in the paper room. Made makeshift ends for the press by sawing a piece of plywood to size. Straps were also obtained. After lunch Schultz and I went out with

Journal

Sullivan, J.
Barrow, Alaska

August 3 (cont) the pin drop apparatus. He made a number of suggestions such as marking the rod in a particular way in order to read ht. of the plant. These suggestions were passed on to Talbert - who is having a new metal apparatus made. Later went out in a weasel and selected some areas to work on the vegetational surveys. These are to include: *Earex-Dupontia*, *Dupontia*, *Eriophorum angustifolium*.

After supper, Holmer and I drove out to the point. At this time of year odd birds are sometimes seen at the point. We took r-b r., western r., and a ruddy turnstone - also saw a harbor seal east of the point - quite close to shore. The eskimoes are duck-hunting now - huge flocks of eiders pass over frequently. Chamberlain → Pitt Pt. Today.

August 4 Collected some plants this morning - worked on identification. Saw Schindler about the Cape Simpson trapping - got aerial photographs of the area. Mullen and I looked these over. This afternoon put up a phalarope skin. Peiper and I went to the Voth Area and selected possible *Dupontia* and *Eriophorum* areas for the vegetation survey.

August 5 Worked on plant identification in the lab today. Correll's Illustrated Flora of the Canadian Archipelago proved useful. There seems to be a difference of opinion in taxonomy

Sullivan, J.

Barrow, Alaska → Wainwright

Journal

between Hultin and Porild - on a few points.

August 6 Preparing to go to Wainwright for the 2nd running of the trapline. Also continued work on grasses.

August 7 On standby for the flight to Wainwright. 1230 with Felder as pilot left for Liz 3. Weather - cloudy, a little rain. Groups of 5-25 aribou scattered over tundra. Arrived at Liz 3 at 1330. Set out lines I + II this afternoon. After supper set out III and IV. One long-tailed jaeger flew low across the tundra. It was a warm evening with a little rain.

August 8 Captured one *Dicrostonyx* this morning - along with a couple of longspurs. 2 Parasitic jagers were flying toward the river. Other bird sp. present: red-backed sandpipers (mostly juveniles), golden plover (families), Bairdi and semipalmateds - by the lagoon, phalaropes - juveniles.

The sun came out; it was warm and pleasant except for the mosquitoes. Cooled off around 2000; checked traps from 2100-2300 - cool at that time. Many of the stakes on the lines are loose and standing at angles. Pushing them down to the permafrost seems to help. The lines are about 1 mi. east of the station - I believe a couple of stakes of 1 meter or more, painted red or orange at the top would facilitate

Journal

Sullivan, J.
Wainwright, Alaska → Barrow

locating the traps.

August 9

Another warm sunny day today - with mosquitoes. One small ♂ Lemming plus longspurs in the traps this morning. Met 2 of the workers at the site on the way back from the line. They were on their way to the garbage dump - 2 miles east of the site along the lagoon, went along for the ride. Lots of lemming sign at the dump - all last year. Glaucous gulls were common around the dump. Waited for the cool evening to check the traps again - mosquitoes were active. 2130 - 2330 checked traps.

August 10

Broken cloud cover today, but still warm. No lemmings in the traps this morning. Called Mullen at ARL about the flight back. Should be tomorrow afternoon or the next day. Checked trap lines I and II early - 1630 - 1730 and brought them in. Checked III + IV after supper, decided to bring them in tomorrow morning.

August 11

Brought in lines III + IV 0830 - 1030. Waited for the flight. Joe Felder arrived at 1900 and we left for Barrow. Overcast and a very light rain on the way. Caribou were fairly numerous - bands of 6 - 50. Saw one snowy owl NE of site. A dead whale

Journal

Sullivan, J.
Barrow, Alaska

on the beach between Lig C and Barrow. Arrived at Barrow at 2015.

August 12 This morning Holmes and I went South of Voth Area to lay out new census area. Rope turned out to be too short so returned to camp. Worked on plant specimen identification this afternoon.

August 13 Worked on plant specimens in lab this morning. Planned flight to Cape Simpson to set up new trap lines. Worked out tentative schedule for remainder of trapping at Barrow. PM - set out lines I+II, IX, X.

August 14 Took census walk this morning. Very little activity on the tundra. Longspurs seem to prevail among birds - all juveniles. Also checked traps this morning. Flight to Cape Simpson could be any day this week - so on stand-by for the flight.

August 15 On stand-by for flight to Cape Simpson. Checked trap-lines and worked in lab on plant identification. Made out some identification sheets for particular plants.

August 16 Checked traps this morning. Returned to lab to await flight to Cape Simpson. Worked on plant identification.

Journal

Sullivan, J.
Barrow, Alaska

August 17 Flight to Cape Simpson today. Joe Felder flew Mullen Piper and I in the 180. (Piper was to go on to Pitt Pt. to collect plant + soil samples. Mullen to be picked up on the return trip - and I would remain for the trapping). Bright, sunny day - we arrived in time for lunch. Mullen and Felder flew out and dropped the stakes so we wouldn't have to carry them out. After lunch Mullen and I went out and looked for the stakes - which proved difficult to find. We were working on the second line when the plane returned and Mullen had to go back. Felder, Mullen + Piper flew over the stakes that, as yet, had not been located - marking them for me (I remained out to spot the marker). - Mullen dropped a note reporting fog + rain coming from the east - so I moved the stakes closer to the site (from about $2\frac{1}{2}$ mi. to about $1\frac{1}{2}$ mi). Set them tomorrow.

August 18 Finished laying out trap lines this morning - sunny weather. 1400-1600 set out traps on lines I + II. 1830-2030 traps out on III + IV.

August 19 0830-1030 checked traps. Captured 6 lemmings. Checked traps again 1830-2030. Long sparse. Some fog today - area appears quite regular in fog - hard to pick out landmarks - although the Cape is a fairly narrow point. There is some slope to east and west (rising) and the

Journal

Sullivan, J.

Barrow, Alaska (Cape Simpson)

central area seems to be a depression.

- August 20 Foggy again today. A couple of snowy owls around. One perches on the tall stake of the trap line. Also one dead juvenile owl - men at site say the dog (husky) killed it. 3 lemmings in traps today. Made evening check early (1500-1700) to avoid dark + fog together.
- August 21 Captured 2 more lemmings today. Windy + cool today - autumn-like. Brought in lines I + II this evening.
- August 22 0830-1000 brought in lines III + IV this morning. Awaited return flight to Barrow.
- August 23 Another autumn day. Windy with a little snow falling. On stand-by for return to Barrow.
- August 24 Elder in area 180 on a return flight stopped at Simpson to pick me up. Poor weather on return flight - saw some caribou. Barrow itself was fairly well covered by fog.
- August 25 Set out trap lines V + VI, VII + VIII today. In remaining time - should set out exclosures and take pin-drop samples. Holmes will help in setting out exclosures.
- August 26 Checked traps this morning - nothing. Holmes and I put out exclosures in both areas - Dupontia, Eriophorum, Carex-Dupontia types. 1800-1900 checked traps.

Journal

Sullivan, J.
Barrow, Alaska

- August 27. Took pin drop samples in areas on Beach Ridge, Hi polygon (near Sea Line Ridge) and Low Polygon near (receiver site) today. Some snowfall interfered with operation. Traps were empty this morning but 1 juv ♀ in line VII this evening (1800-1900).
- August 28 nothing in traps this morning. Took pin drop vegetation samples at Hi Polygon area. Snow had managed to warp wooden crossbar in pin drop apparatus - making movement of pins difficult. Returned to camp for F-27 flight to Fairbanks.

Sullivan, J.

1961 - 1962

Alaska

Trapping Data: 1961

Sullivan, J.
1961

Trap Set I

Live Trapping

Barrow, Alaska
1300-1700

June 13 set 5 rows of 5 traps each. Treadle baited with peanut butter, bacon fat and clove oil. Traps are of wood with

5x	x	x	x	x	a museum special mouse trap and
4x	x	x	x	x	a metal door - fixed to spring
3x	x	x	x	x	shut when the treadle is sprung.
2x	x	x	x	x	Location: $\frac{1}{2}$ mi. from ARL toward ABCs
1x	x	x	x	x	(south on the road). Traps are

I II III IV V
placed on a polygon area on west side of the road

June 14 0800-0945 - Nothing

Set out another 25 live traps in the same manner as above. (See Trap Set II)

1800-2000 - Nothing

June 15 0745-1000 - Nothing

1500-1700 - Nothing

June 16 0800-1000 - Nothing

1630-1720 - "

June 17 0800-0910 - "

June 18 0750-0900 - "

June 19 0800-0930 - "

June 20 1630-1720 - "

June 21 0800-1000 - "

June 22 0800-0910 - "

June 23 0800-0900 - " Closed traps today

Trap Set II

Sullivan, J.

1961 Barrow, Alaska

- June 14 0800-0945 Set out 25 more live traps in the pattern as used in Trap Set I. West of Beach Ridge ^{along} ~~gas~~ line. _{IV 3}
- 1800-2000 - Nothing in way of Lemmus 1 ♂ snow bunting
- June 15 0745-1000 - Nothing
- 1500-1700 - Nothing
- June 16 0800-1000 - Nothing
- 1630-1720 - Nothing
- June 17 0800-0910 - "
- June 18 0750-0900 - "
- June 19 0800-0930 - 1 ♂ snow bunting IV-2
- June 20 1630-1720 - 1 ♂ snow bunting III-3
- June 21 0800-1000 - Nothing
- June 22 0800-0910 - "
- June 23 0800-0900 - " Closed traps today

I

Sullivan, J.

1961

Pitt Point, Alaska

Live Trapping

July 9 Set 15 traps in a row, 50 feet apart, west of POW 1 station and one end about 150 yards east of the far oil tanks. Baited with grass cut in the field and with bacon fat-peanut butter-clove oil on treadle.

July 10 Nothing Traps placed in runways.

July 11 Nothing

1800-1900 moved traps to new area.

II

July 10 Set 15 traps - 3 rows of 5 traps each in ^(20 feet apart) area where a lemming had been marked and released (400 yards west of the 2 oil tanks near the station). Traps placed in runways.

July 11 Nothing

July 12 "

July 13 "

July 14 "

July 15 " Brought in traps.

Sullivan, J.

1961

Pitt Point, Alaska

Live Trapping

III

July 10 Set 5 traps - 20 feet apart, baited as above in area west of oil tanks where a lemming had been seen. Traps placed in runways.

July 11 Nothing

July 12 "

July 13 "

July 14 "

July 15 " Brought in traps.

IV

July 11 Set 15 traps at oo end of snap-trap line III. 2 traps per stake (1 trap by stake 1.4). Baited as above. Traps placed in runways.

July 12 Nothing

July 13 "

July 14 "

July 15 " Brought in traps.

Sullivan, J.

1961 - 1962

Alaska

Bird Census Data: 1961

Sullivan, J.

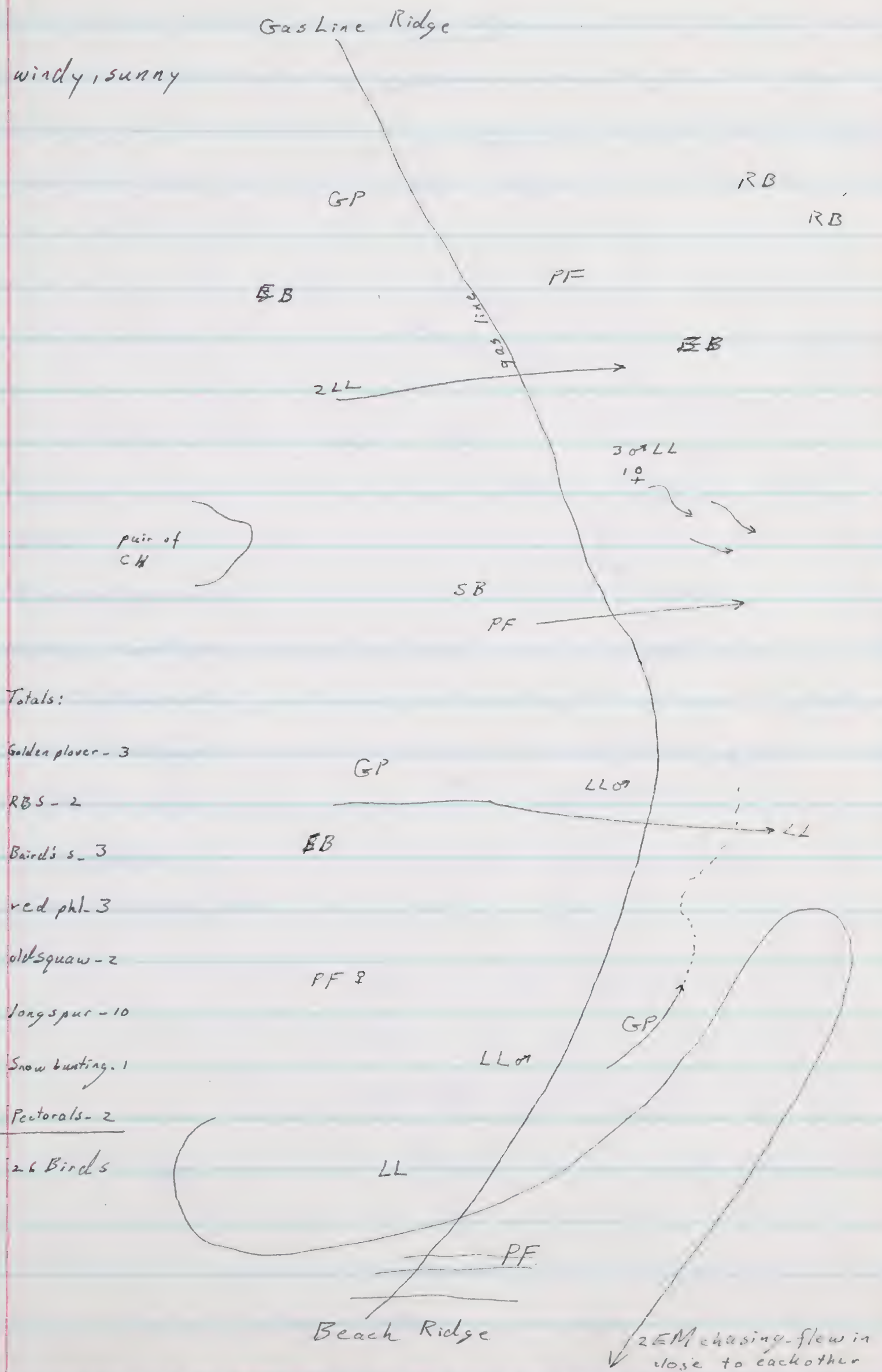
1961

Barrow, Alaska

Census Walk

June 21

windy, sunny



Sullivan, J.

1861

Barrow, Alaska

June 27

Census Walk

8 Pintails

Goose line ridge

2 LL

2 LL

LL

1 PJ

RP

SPB (Feeding)

10.5

RP (7)

Total:

9 Lapland longspurs

2 Snow Buntings

8 Red phalaropes

2 Long tailed jaegers

1 Parasitic jaeger

1 Pectoral s.

8 Pintails (beyond plot)

13 birds

2 LL

PS

LL

Beach ridge

Census Walk

Sullivan, J.

1961

Barrow, Alaska

July 4

Gas Line Ridge

Sun broke out of
clouds - wind 5-7mph.
Pleasant weather.

Total:

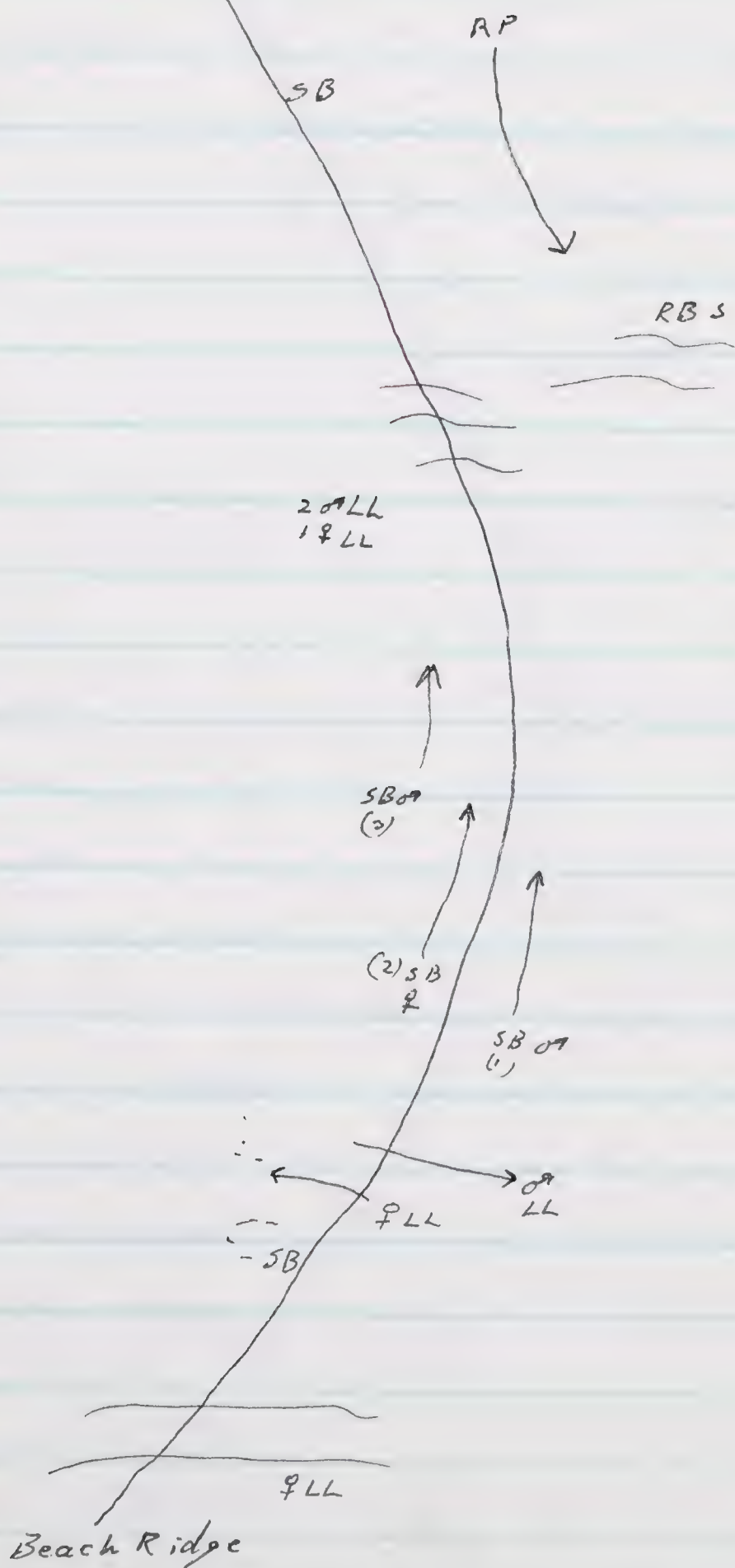
6 longspurs

5 snow buntings

1 Red phalarope

1 Red-backed s.

13 birds



Census

Sullivan, J.

1961

Barrow, Alaska

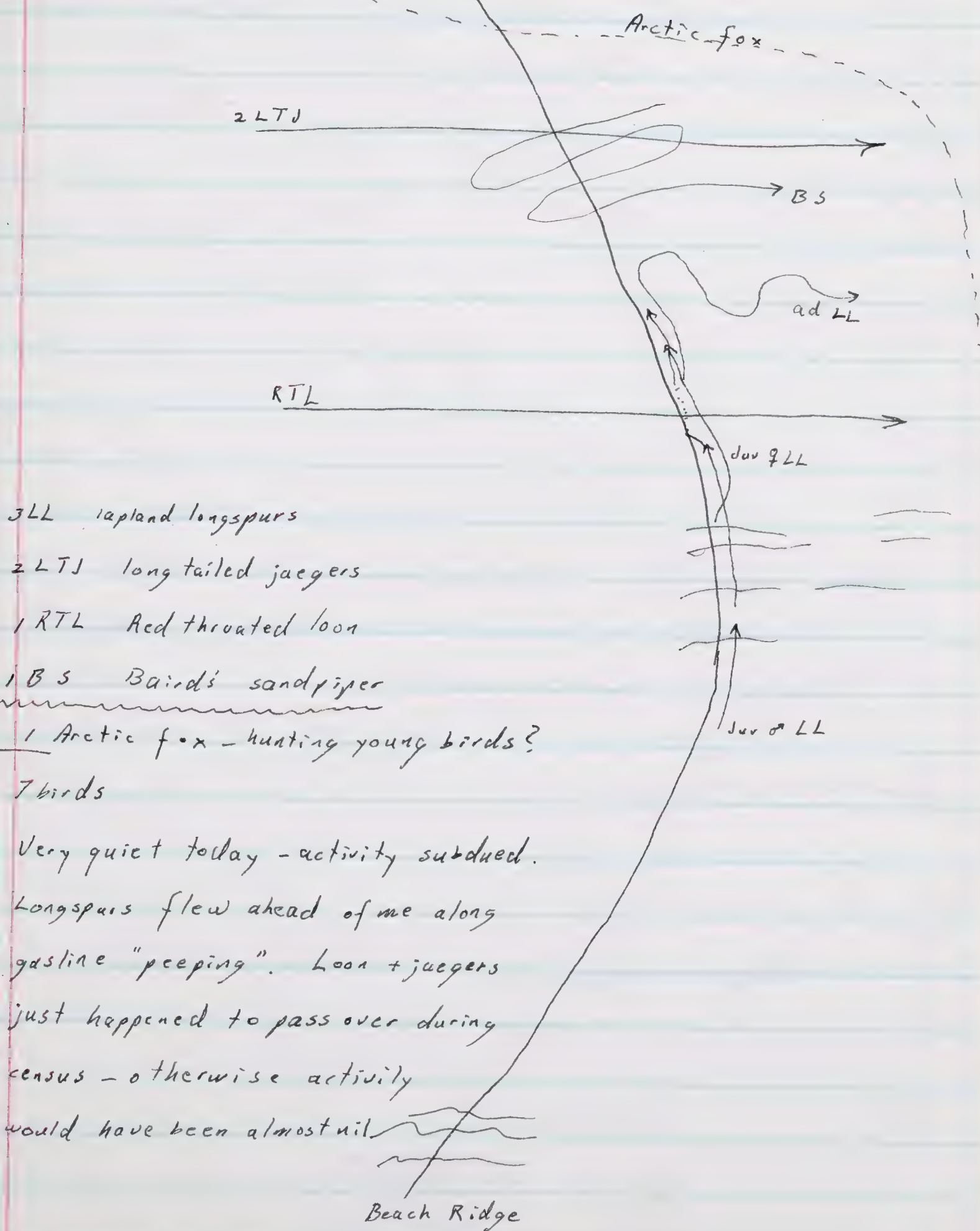
July 18

Gas Line Ridge

Raining + cool this morning

0800-0930. 100% cloud cover.

Wind - still.



Census

Sullivan, J.
1961

Barrow, Alaska

August 2

0800-0910

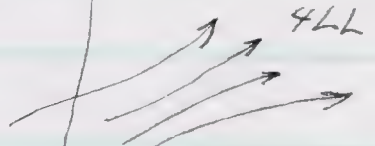
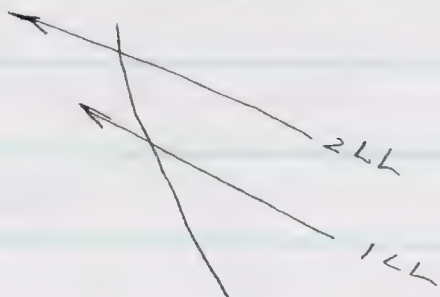
Clouds cleared and
weather became sunny

- 7 LL longspurs
- 1 GG glaucous gull
- 2 Roons sp?

11 Birds

Tundra quiet this morning.

Gas Line Ridge



Beach Ridge

Census

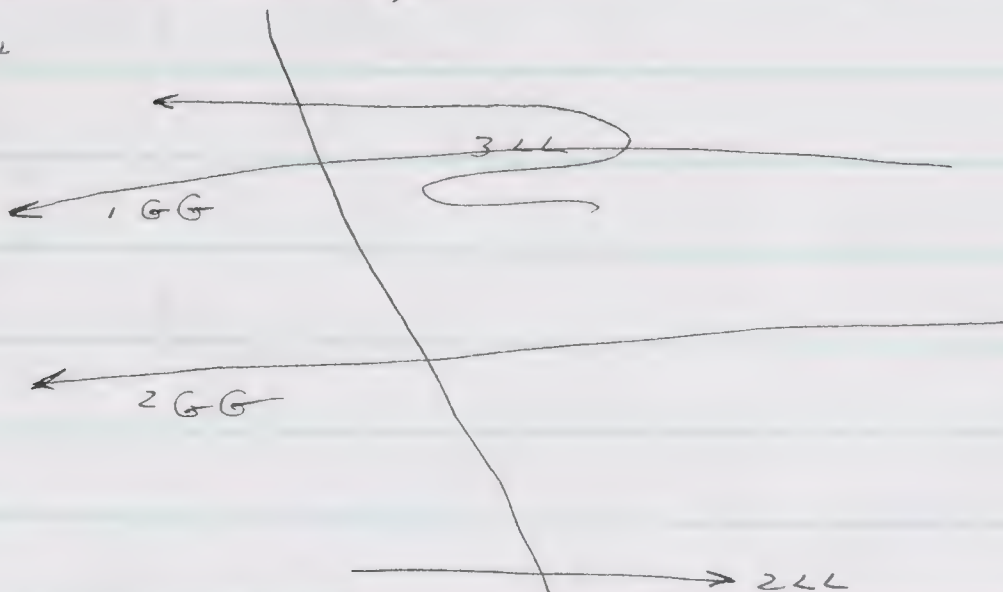
Sullivan, J.
1961

Barrow, Alaska

August 14 0800-0900

Cloudy - overcast

G. Line Ridge.



1 GP
golden plover

1 LL

15 LL longspurs

3 GG glaucous gulls

18 Birds

All longspurs present seemed to be juveniles. A plover was seen about 1/4 mi from the gasline.

4 LL

1 LL

1 LL

B. Ridge

Sullivan, J.

1961 - 1962

Alaska

Journal: 1962

1962

CAPE SIMPSON

III

IV

pond

I

II

Overturned lumps of
earth -
Fresh 1962

To find Trap Lines:

Walk along lake shore (to south).

Lines I + II are visible near
south end of lake (about $1\frac{1}{2}$
miles out from the module).

Lines III + IV are visible from
the end of line II (look to SE).

LAKE

LAKE

Green Wanigan

O Tower

Bldgs.

□ □

MODULE

WAREHOUSE

AIR FIELD

BEACH
OCEAN

CAPE SIMPSON - TRAP LINES

n. Sullivan

WAINWRIGHT

1871

John O. Sullivan

KUK
RIVER

To Find Traps:

Follow line of orange painted drums.

are visible from the drum

It is to the left of the
small lake (left - if mediate
is directly behind you).

I + II are on high ground to right of same lake. IV is on high ground above III.

Site
Use

OUT FILE

John O. Sullivan
1962
Barrow, Alaska

Journal

- 7 June - Western Airline flight leaving at 2:15 PM cancelled. Substitute flight left around 3:45. Left Seattle at 7:50 PM on Alaska Airlines jet. Some cloudiness interfered with visibility on the way to Fairbanks. Fairbanks was clear and sunny, fairly warm - 57° at 7:30 PM. Nordale was full so stayed at the Fairbanks.
- 8 June - left Fairbanks at about 0830 on the F-27 (Wien). Sat with Gary Stevens, a new assistant on the project - met him this morning at the air port. Toward the Brooks Range we began hitting clouds. At times we had a blanket of clouds below and above the plane - yet were in a clear space. Saw some peaks in clear spots. Snow covers large portions of the mountain. The tundra north of the range was blanketed by low clouds; the F-27 flew in sunshine above. Landed at Barrow at 1100 in a light snow-storm. Saw Joe Felder at the air port (an ARL pilot last year - now flying for Wien). At the lab - Karl Stone (now an administrative assistant -) issued Stevens and me field clothing.

Journal

John O. Sullivan

1962

Barrow, Alaska

8 June (cont.) 1330 Mullen, Stevens, and I toured trap lines $\bar{V} + \bar{VI}$, $\bar{I} + \bar{II}$, and \bar{IX} and \bar{X} . Carcasses of lemmings had been put out by the stakes just before the heavy snow began last fall. (Chamberlain put them out). Mullen wanted to find out if predators could locate and would eat the carcasses. Lines $\bar{I} + \bar{II}$ had no carcasses placed by them - control check on fear of predators. Stevens found a fox nest with some brown paper bag in it, $12\frac{1}{2}$ paces from line \bar{VI} . The lemmings had been frozen (inside paper bags) before being placed by the lines. There some paper stuck to the animals - weather improved this afternoon. Occasional sunshine came through. A young husky came running towards us (from the direction of the receiver site) while we were on gas line ridge - at lines $\bar{I} + \bar{II}$. It was a or about 1 yr. old - and friendly. He spent a lot of time chasing longspurs and brantings while we checked the lines. The question is: what would this dog (or others) do to lemmings in traps -

1630. Brewer had a meeting for all

Journal

John O. Sullivan
1962
Barrow, Alaska

8 June (cont.) personnel who wished to operate weasels this summer. A rack of broken tracks (5 in the last week or so) was the cause of the meeting. Brewer itemized costs of equipment and operation which totaled \$4/mile. A broken track costs \$800 and no more tracks are being produced. Weasels are no longer being made - Barrow is to be the "graveyard" of the weasel (Brewer). Information on proper driving and other cautionary advice was given. Comments later were to the effect that the talk was useful and would benefit weasels and their investigators. Mullen suggested a repeat performance to Brewer when the rest of the summer workers arrive.

at 1700 it was quite sunny and fairly warm. The ice over the ocean looked very white.

Lemmings seem to be scarce at present. Mullen has 4 animals in the colony. The eskimos captured over 100 near the village last year about this time. This year none have been taken there - though Pete Sovalik was asked and has some eskimo children looking.

9 June - Worked over traps this morning. Also got some bacon fat and peanut butter from men

Journal

John O. Sullivan

1962

Barrow, Alaska

9 June. for baiting. Some combinations of broken traps will make one functional.

- 9 June. While resetting live traps in drum area, saw 2 snowy owls (a pair). ♂ gave "dracula" display with lemmings in beak. ♂ (standing on mound) was joined by ♀. ♂ had flown to mound with a slow moth-like flight - wings moving very slowly, held quite high. ♀ took lemming - flew 25 yards towards receiver site - and proceeded to eat the lemming. Mullen, Piper, Stevens and I watched from the west (about 100 yards away). The pair was together on the mound for about 5 minutes then the ♀ flew off and ate the lemming - after another 6 or 7 minutes, she flew a little farther off - again toward the receiver site (PPRC). This occurred from about 1530 - 1545.

Proceeded to walk along the edge of the snow and to turn over chunks of snow (2 of us had shovels). Cade and Maher had some success in this way earlier. Every now and then we uncovered a lemming. 10 were captured by about 1700 (a fine day for Mullen). Conditions were excellent for this sort of hunt: clear sky, sunny and warm ($\pm 40^\circ$). The snow was soft and "easy" to turn over.

Journal

John O. Sullivan

1962

Barrow, Alaska

9 June (cont.) After supper, Steven and I went back out to the same spot in the drum area. Between 17:15 and 2100 we captured 7 more via shovel - 2 were in live traps which we had set during the afternoon's hunt. - a total of 19 lemmings today! The snowy owl was there (with another lemming) - but no display.

10 June - Barrow, Alaska

Drove out to Bar line ridge with Steven this morning. Still some snow around trapline I + II. Afternoon: Mullen, Piper, Steven and I turned over snow with shovels in the drum area. Lemmings were somewhat plentiful. 10 were taken for blood samples (Mullen). 12 taken alive for the animal colony, and 2 were accidentally killed in capture. 24 total. (43 in the last 2 days - captured in this way.

The sun was particularly warm today; the snow is getting quite soft. Trickles of water are running toward ponds and sloughs. Many areas under the snow are quite wet. Lemmings seemed to be forced to the ridge where it is a little dryer under the snow.

Journal

Sullivan, J.
1962

Barrow, Alaska

11 June

Heine and I worked on snap traps this morning. Checking them for operational condition and baiting them. We also drove to Gas Line Ridge and Beach Ridge + Central marsh - looking at snow conditions at trap lines I, II, IV, VI, VII and VIII. Lines V, VI, VII + VIII still have plenty of snow. I + II are more clear - quite likely to be the first lines open.

Worked on traps this afternoon: baited, oiled and put in working order. 1530-1700 Heine and I set live traps (20 - 5 rows of 4 traps each) where Beach Ridge joins the pipeline. There was a dead lemming in a mound near the trap right. Snow is receding in this polygon area exposing more and more stakes.

2100 - 2320 checked live traps - no lemmings.

Captured 1 Lemmus alive not far from trap area.

12 June

We had shortage inspector operation somewhat. Pieper going to his fertilizer plot - so Heine and I went along - checked live traps on the way. (no catch).

Day partly overcast - some sunshine, colder than yesterday. Tunoka is in very bad shape for local traffic or foot. Decided to go around it with trucks rather than risk going through.

Journal

Sullivan, J.

1962

Barrow, Alaska

12 June

(cont). Much snow melt is causing rivulets of water to run all over the tundra (toward ponds, sloughs, etc.). Paper's plot still largely under snow (including trap lines XIII + XIV). Walking-difficult, you break through 3-6 inches of crust into 1-3 or 4 in. of water below. A few (very few) bare spots in evidence. Pieper reported this entire area free of snow (mostly) last year on 16 June. The season lags.

Birds seen this morning: snowy owl, parmaire jaeger, glaucous gull, red phalarope, r-b sandpiper, Baird's, postals, golden plover, snow bunting, jauntails.

This afternoon Hines, Pieper, Steven and I checked trap lines V + VI for remains of lemming carcasses from last year - or for scats. Most of the lines are still under snow. No carcasses found - but some fox scat + owl pellets. Next (1530-1630) set snaptrap lines I + II on Gas Line Ridge. Majority of the stakes are free of snow (7 remain under). Runways and some tracks (on snow) in evidence. Also checked live traps (Beach Ridge) - one ad. ♂ lemming captured - marked and released. Hines to check the live traps at 2200, I check at 0400.

Journal

Sullivan J.
1962

Barrow, Alaska

13 June

0410 - Sun bright, temperature rather cool - a thin crust of ice formed over still water. Driving the wheel still very tricky - much breaking through snow and ice; necessitating slow, careful navigation over tundra. Red-backs calling near Beach Ridge. Live traps empty - snow is receding rapidly in this area. More stakes uncovered.

0830 Drove Pitelka to Beach Ridge near census plot. Hiner and I continued to Dart Line Ridge - checked snap traps. 1 ad ♂ Lemming and 3 longspurs captured.

Sunny, mild weather continues. Other lines should open up soon. Live traps empty at 0945.

Cade has 3 nestling shrikes in the lab, which he is attempting to rear. Feed them fresh-killed birds (or lemmings). Cade is also running some temperature experiments with lemmings. Immerse them in an ice bath lowering their temp. allow recovery for a day or 2 before using same animal over again. Cade wants to determine how low a temp. Lemmings can withstand.

Finished checking functioning of all 8 packs of snap-traps (baited - too). Checked live traps at 1600 - no captures. Hiner noticed

Journal

Sullivan, J.
1962

Barrow, Alaska

13 June (cont). a freshly dropped owl pellet. Posterior $\frac{1}{2}$ of a lemming was largely undigested. Muscles of hind legs and rump intact.

also saw a parasitic jaeger within $\frac{3}{4}$ of a mi. of receiver site.

2015 - 2140 checked snap traps (I + II) and live traps - no captures (either). Still sunny, somewhat cool. Mass of gray over Barrow + Browerville - sun just by the edge of this around 2130.

14 June Barrow, Alaska

- with Holmes to Ikroavik today. Weather cloudy (overcast), fairly stiff breeze. Tundra conditions extremely bad for wheel travel. Melting ice and snow very easily broken through. Must particularly watch out for sloughs -

Shot 2 ♀ longspurs on way to the lake. Holmes collected a few r-b sandpiper. Near the lake we saw 4 white-fronted geese, 6 black brant and about 30 pintails. Saw a bar-tailed godwit about $\frac{1}{4}$ mi. from the wanigan. Holmes took the specimen.

Found a pair of snow buntings nesting in the air vent to the wanigan. A sliding door from the inside makes it possible to look right into the nest.

Saw ± 6 pomarine jaegers, a snow goose, 2 Canada geese while on Holmes' census plot.

Journal

Sullivan, J.

1962 Barrow, Alaska

17 June (cont.) Weather cleared while we were on the census plot - still cool but sunny and pleasant. On the return trip, we stuck the weasel out in footprint lake near the gas well. We were next to the "road" which was under about 2 ft of water, and the weasel sat at an angle - one track up on the road, the other (the left) stuck deep in snow and water below. Holmer and I gathered our specimens, binoculars, shotgun, etc and began the long trek back to camp (after failing to dislodge the weasel). Within 10 minutes a walrus-mustachiod individual drove up in a weasel on his way to the gas well. We got a rope from the gas well and he made preparations to tow us out. Holmer got in and put the weasel in reverse - I noticed that it backed out before the line became taut. The snow that had jammed the left track must have melted thus freeing the track ... something to keep in mind if you're stuck in such a situation. We made it back for supper.
2145 - 2300 - checked snap traps and live traps.

Journal

Sullivan, J.
1962

Barrow, Alaska

15 June

0830 - 0940 Pipes and I checked snap traps - no captures. Another Riviera-like day at Barrow - sunshine and warmth. Snow melt proceeds rapidly. 0945 - 1130 Pipes and I redistributed the live traps and set some additional traps (total of 68).

1330 - 1615 Pitelka (sexing, aging, reprod. data), Hines (recording) and I (weighing + measuring) worked up data on a few hundred lemmings brought in from the environs of the village by the eskimos. Mullen got some vaginal smears from 100 or so.

1615 - 1720 Checked live traps - no captures. 1845 - 2000 - back to the lemmings - finished off the sample. 2000 - 2200 Hines, Stevens and I checked Snap Trap lines I + II and brought them in (3rd day). Weather - more Barrow-like tonight: cold, a stiff breeze - a little rain. Sun broke through while we were bringing in the traps - very clear and cool. Checked live traps on way in. Wrote up notes - 2230.

16 June

Barrow, Alaska

0830. Cold windy morning, overcast sky, ground fog obscuring buildings somewhat. Checked live traps (with Pitelka + Hines) this morning - no captures. Longspur nest on plot. The

Journal

Sullivan, J.

1962 Barrow, Alaska.

16 June (cont) ran right back to meet while Hiner and I watched from 30 ft away. Also saw a lemming near gas line - ran under a barrel then was chased into high polygon area. Hid in tunnels there. Worked on rod sampler - Holmer's insect availability studies.

Worked on rod sampler till 1500. Mullen, Steven, and I checked trap lines IX and Z for carcasses (from last year). Found one carcass, many paper bag remains, very few scats. Parts of the lines were under a couple of inches of water. checked live traps at 1630. Drove over to Beach Ridge to pick up Pitelka at his census plot. Pitelka had been dropped there by Holmer at 1330 or so. We were a little late for 1630 rendezvous but Mullen did his best to get us there on time. P. was striking back about 1 mi. from his plot when we picked him up -

Hiner, Steven, and I set out snap traps III-A III-B this evening (1855-2035). A beautiful night - clear + cool - the sea ice looking white + blue over the ocean. The outlet of Family (Salt no. 2) lagoon is high on the weasel - up to the boarding step above the tracks. Spotted a r-b sandpiper with

Journal

Sullivan, J.

1962 Barrow, Alaska

16 June (cont) near III-A - 1.6. (cell + eggs). ♀ got off slowly and with much wing flutter. Hiner marked the nest with a trap stuck 4 ft to the west - too much water to the east. A young dog (from missile tracking base) was in the area. Very frisky - chased birds, ran about. May be troublesome on the trap line.

17 June 56° at 0800 this Sunday morning. A very clear sunny day. Ad ♀ Lemmer in live trap. The 4th lemming taken in the live trap area. Hiner photographed the longspur nest this morning. To snap traps across outlet of Family Lagoon. Water was not quite so high today. A Lemmer taken in snap traps - also saw a short-eared owl in vicinity of Hiner (3A+B) (B)

Afternoon - warm + sunny. Hiner, Steven and I collected in Voth Area. Golden plover, red-backed sandpiper, semipalmated s., red phalarope, longspur were taken. Saw one pectoral display - and others were heard in vicinity. Also a pair of ruddy turnstones in area - turnstones are difficult to approach. Hiner went toward Hiner II A+B while I hunted high polygon near Salt Lagoon no. 1. Steven moved the vessel - to which we brought our kill. Returned to camp about 1740.

Bohacch, Hiner and I to snap traps III A+B

Journal

Sullivan, J.

1962

Barrow, Alaska

17 June Continued to live traps. Bohnsack wanted to get out away from camp just to see conditions on the tundra. The water running from Family Lagoon to the ocean has gone down a little - the top of the track now shows above water. Gravel road to the middle tracking site makes travel easy in this direction - once you cross the outlet of Family Lagoon.

Live trap area - could see 7 snowy owls from this area (at one time). Live traps are still unproductive (though a little better tonight - 2 captures). Back to camp around 2230.

18 June Barrow, Alaska

With Rick Ashley (assistant of Bohnsack), and Hiner to trap line. 2 Lemmings in live traps - a new ad. ♀ and a neophyte. ♀ longears in my trap - returned to nest while we watched - a short distance away. - To snap traps - Family Lagoon outlet down a little more. Weather today: warm and cloudy - seems to be threatening rain. Ashley took some soil samples with a core device - to check for insects later. Hiner collected a ruddy turnstone.

Overcast today with a light rain falling intermittently (afternoon). Worked on soil sampler and checked live traps this afternoon. Located a snow buntings nest in high tundra area where

Journal

Sullivan, J.
1962

Barrow, Alaska

18 June (cont.) Beach Ridge join gas line. (near Live Plot).

checked snap traps with Hiner 2030 - with Holmes to live traps 2130 (nothing in traps) Holmes heard a curlew sandpiper - then decided it was a golden plover - we turned to walk back to the vessel, and heard Pitelka calling across the tundra. P. had walked out to the area SE of Family Lagoon earlier in the evening. He had found the curlew sandpiper. We walked back to where the bird had been - Holmes saw the lone ~~or~~ standing by a pond. There was also a pair in the area - about 200 yards from the single ~~or~~. The males were displaying frequently (see spp. account).

19 June

Clear and windy this morning. Hiner and I to line III A-B (1 Lemming, 1 r-b.s., 1 longspur intact). Vessel shortage makes it necessary to return to camp to give Pitelka and Holmes a chance to go out to Beach Ridge, Elson Lagoon. Put up the lemming skin that was taken in the traps. Hiner finished putting up the king sides that Maher brought in. The wind keeps rising - blowing quite hard this afternoon. Cut some fresh grass for the live traps. Rhysoman green even though much of the grass is dead or brown. Snowy owl scattered around - 6 in view from one spot near the gas line - also

Journal

Sullivan, J.
1962

Barrow, Alaska

19 June (cont.) a tern flew over. 2 Pomarine jaegers in the area.

Distributed fresh grass to the live traps -
 after supper started out to check and
 bring in line III A + B. Stuck weasel
 363 in outlet of Family Lagoon. a hole
 in the front of the weasel - let water in
 which flooded the engine. Walked back
 to camp, found weasel 366 with a
 switch (rather than a key - all keys locked in
 office and sat at Nalukatauk in Barrow).
 Got a rope from Pieper's lab and was
 one to help - towed 363 out. It would go
 in low gear - limped back to camp. Met
 Sater on the road - got the key to 587
 (weasel). Got Pieper to help - pulled in
 line by 2300.

20 June Barrow, Alaska

Drove Pitelka to Beach Ridge - then
 checked live traps - one ad ♂ Lemmings
 captured. Put up a lemming skin
 (one that had died in Muller's animal
 colony). This afternoon Maher, Stevan, and
 I to line IX and X - Maher went on to
 Beach Ridge to look for Longspur nests;
 Stevan and I set out the trap lines. Weather
 overcast and cool. A brisk wind blowing
 while setting traps.

Journal

Sullivan, J.

1952

Barrow, Alaska

20 June (cont). Supposed to fly to Wainwright tonight but fog moving in ...

21 June Barrow, Alaska

0810 - 0910 checked live trap and snap traps - 1 subad ♂ Lemming and a ♂ longspur in snap traps.

Temperature at 0800 = 36° by main bluff FRL. Mist at airport makes early flight unlikely. Put up the Lemming that was taken in the snap trap this morning. checked live trap this afternoon.

checked snap traps after supper.

22 June Barrow, Alaska → Wainwright, Alaska

0800 closed live traps in preparation for trip to Wainwright. Weather clearing by noon. Murphy to pilot Hiner and I to Wainwright in census 180. Hiner and I will set traps while Murphy flies on to deliver supplies to an outcamp. Hiner to be picked up on the way back. Left about 1430. Saw scattered bands of caribou (5, 11, ± 30 individuals per band). Geese and owls not abundant though visibility is good. Very little snow around Wainwright except on the banks of the Kuk River. The Kuk is semi-open - some ice cover. Arrived around 1545 - signed in, and will break

Journal

Sullivan, J.
1962

Wainwright, Alaska.

in end hut (of three). Trap line found without much difficulty. Condition of stakes: all present, some loose, large stakes unpainted but thicker than small stakes. Predators in area: 4 snowy owls, 4 pomarine jaegers, 2 porcupine, a long-tailed. Traps set out by 2200.

22 June Wainwright, Alaska

0745-1015 checked traps - weather: clear, cool, sunny, windy. Took nine lemmings (about $\frac{1}{2}$ *Dicrostonyx*). Golden plovers, red-bellied sandpipers, longspurs, snow buntings, semipalmated s., red phalaropes common in the area. 6 snowy owls seen in the area. Lemming sign in good; lots of runways and fresh holes. Lines 3+4 (4 in particular) are in polygonized, tussocky tundra. This area is laced with runways. This afternoon saw a pair of red-throated loons in a tundra pond. One stretched out its neck and lay very low in the water (among some *Arctophila*) on seeing me approach. Both birds kept an eye on me - though I crouched and remained still. After while they came into the area, swam about near each other for a few minutes, then

Journal

Sullivan, J
1962

Wainwright, Alaska

flew off with a low egg. Checked traps this evening 1915-2115.

24

24 June

Wainwright, Alaska

Sea fog in today, also cold and intermittent winds. New Line Station on Sunday schedule - breakfast 8-9 AM, dinner at 3:30 PM. Checked traps 0900-1115. Went with "Clarence", the outside mechanic, to the river where there is an AKL boat. Clarence said he would paint it if we send over 2 quarts of gray and 1 of white, also could use some varnish for the inside. Clarence is the individual who trapped the 2 wolverines (at Barrow now). At the time of capture (1957), he was stationed at Pitt Point (now). The animals were raiding some meat caches - Clarence rigged up a couple of drum traps and caught them. He had to weld them into the drums before a pilot would fly them to Barrow.

Nolan

checked traps this evening - weather still bad - overcast and a light rain is falling. Comparatively poor catch this evening.

25 June

Wainwright, Alaska

Some fog this morning - however the traps

Journal

Sullivan, J.

1962

Wainwright, Alaska

25 June (cont.) of some of the receiving equipment at the station (as seen from trap line). Another low catch this morning: 3 lemmings. Pair of Steller's eiders seen on various ponds - allow a fairly close approach. Stiff breeze from ocean this morning.

A ♀ snowy owl was seen in a trash barrel next to one of the huts. Some of the younger men at the Dew Line Station like to shoot at the larger birds, etc. on their off duty time. Saw one individual yesterday with what looked like a .30 caliber rifle picking toward the Kuk - also heard shots from that direction later.

1845 - 2210 pulled in trap - an exceptionally good take tonight: 9 lemmings, a western sandpiper. Line 4 particularly productive. Had to relay the packs in 2 at a time; it was too difficult trying to carry 4 at once (heavy + clumsy).

1100 - 06 E (ARLenna) approaching this station. Finished off hot apple pie, pulled specimens out of freezer, then gear in to duffel bag in time to see 06 E land, discharge a passenger, and take off again. Papis was the new arrival - came to get soil and clipping samples.

Journal

Sullivan, J.
1962

Wainwright, Alaska → Barrow, Alaska

25 June (cont) Fischer (pilot) gone to Wainwright village and to an out camp and should return for us in 3 hours or so

26 June Wainwright, Alaska

0115 Pieper woke me up in the hut mumbling that Fischer should be here in a few minutes. We walked out to the landing field (our gear had been dropped there at 2330 last night. Visibility good in the immediate area and around the village, but misty and overcast inland (30-40 miles from station). Fischer came in around 0145 - had gotten to the village (where the anthropologist is now located) but had not made the outcamp.

Flight back - very smooth - more birds, a number of glaucous gulls and Pieper saw an arctic fox. Ice had moved into the shoreline most of the way up, (Fischer had seen a certain amount of open water just offshore on the way down). Most of the tundra clear of snow between Barrow and Wainwright. Flew over Barrow village about 0240 - about 20 natives stood in a group waving at us - just outside an old house.

Journal

Sullivan, J.
1962

Barrow, Alaska

26 June (cont.) Arrived Barrow 0245. Reported specimens in ice box. Sky very clear over Barrow now.

Checked over snap traps (from Wainwright) this morning - one of the packs should be 2 traps short - added a couple extra to each pack. Mullin reports that 2 should be flying to Pitt Point tonight or tomorrow.

This afternoon Pitelka, Hines, and I processed 58 lemmings (which were collected by natives around Barrow Village).

27 June

Barrow, Alaska

Put up *Dicrostonyx* skins from Wainwright this morning. Talked to Brewer about flight to Pitt Point (this afternoon ... maybe). Lawrence Nolan, the outside mechanic, at Wainwright and the ARL boat were mentioned. Brewer will have paint + varnish for the boat seat over. Nolan will be kept in mind if live poles are needed by investigators. (Nolan is an accomplished trapper). ... Pieper will go on the P. Point trip - to get clipping and soil samples. The plane will return for him after 3 or 4 hours.

This afternoon Pitelka, Hines, and I processed most of the 177 lemmings brought in by the eskimos. I put up another *Dicrostonyx* skin. After supper we processed the remaining lemmings. 2015-2200 Hines and I pulled in

Journal

Sullivan, J.
1962

Barrow, Alaska

27 June (cont.) lines $\overline{V} + \overline{VI}$, $\overline{VII} + \overline{VIII}$. Weather: clear, sunny, fairly warm. Coastal marsh looked like a vast expanse of yellow-brown grass. A cloud of pintails (30-40) got up as we drove the wheel below beach ridge. Also saw large flocks of pectorals (25-30 or so). 4 king eiders flew over the ridge while we were on line \overline{VI} .

Today the ill-fated 30 mile wheel track by the fox students from U. of Alaska, returned to camp. The clutch of their wheel burned out south of Ikroavik - they limped back to camp in it.... The Pitt Point flight is now scheduled for tomorrow morning -

28 June Barrow, Alaska \rightarrow Pitt Point, Alaska

Piper and I with Murphy as pilot in OGE to Pitt Point. Left Barrow at 1230. Arrived Pow 1 at 1330. Murphy to wait for Piper and take him back to Barrow. Clear flying weather - saw no jaegers or owls on the trip over. 30-40 glaucous gulls were in the dry lake bed SE of the Pow 1 module, within a mile of the site. I dropped traps by line \overline{IV} while Piper took his clipping samples. We both set line I by 1430 - then we dropped traps at \overline{II} and \overline{III} - returned to site for coffee and to get Piper back to Barrow. I went back out and set traps

Journal

Sullivan, J.

1962

Pitt Point, Alaska

28 June (cont) on lines II + III before supper. IV was set after supper. Pieper and I saw no owls, 1 pomarine jaeger and 1 pariaitic jaeger. The grass looks quite high and uncut. Runways do not look fresh indications do not look promising for a good catch of lemmings.

29 June Pitt Point, Alaska

Another clear sunny and warm day at Pitt Point. Four lemmings in the traps this morning (2 of each sex). all were taken on lines II and III. I may be too wet (certain parts of I are below an inch or 2 of water. IV is on the side of the slope leading to the dry lake - grasses are not abundant along IV. II and III are the most promising lines - plenty of grass along each - also small irregularities in the ground surface permit the water to collect in pockets and "ditches". Thus the lemmings have "dry" ground and drink- ing water close at hand. A few burrows look fresh along these lines.

Men at the station have not seen many owls here this year. One remarked on the abundance of owls at L₁₂ 3.

Journal

Sullivan, J.
1962

Pitt Point, Alaska

29 June (cont). Saw no owls today, 1 pomarine, and 1 parasitic jaeger again. A ptarmigan was seen about $\frac{1}{2}$ mile down the winter water haul road from the station. He flew across the road - giving the "croaking-sucking" sort of call. Nothing at all in the traps this evening. Pectoral sandpipers are present here - in small flocks (4-10 individuals). A pair of turnstones (ruddy) seen near the start of line I. Temipals displaying (giving the electric motor call in flight) only occasionally. Red backed sandpipers heard once in awhile. No golden plovers seen today. One Baird's sandpiper - by the module. Red phalaropes common - and still paired.

30 June

Pitt Point, Alaska

Clear, with scattered clouds this morning. Temperature: 46°. 1 Lemmas, a couple of longspurs and a phalarope taken in the trap lines. Collected one of the turnstones for a skin. Went out to the dry lake where the gulls were seen from the plane on the way into the station. Most of them (8 of 12 or so that were present) flew off when I came near the

Journal

Sullivan, J. Pitt Point, Alaska
1962

30 June (cont) ridge leading to the lake. Crouched down and watched the remaining 4 gulls for awhile. They were ± 500 yards away across the lake bed - so I couldn't see much. A red phalarope flew up - landed about 15 feet from me by the side of a small pocket of water and began preening. A pictorial was feeding near the phalarope - after a couple of minutes 5 more pictorials flew in and began feeding. Longspurs just on the ridge just behind me. Got 2 more lemmings on line III this evening (none on the other lines). It seems that local abundance of lemmings can be quite variable: 5 taken on line III, 1 on line II, 0 on I + IV. Water around line I and lack of grass on IV could explain this. Have also noticed some spots here and there on the tundra (one area in particular - on a straight line between line IV and the East end of the module) have some fresh runways and burrows. Still the overall picture here is one of lemming paucity. Ain't no owls, ain't no foxes, ain't no jaegers (hardly) all indicate there ain't no lem-

Journal

Sullivan, J.

1962

Pitt Point, Alaska

30 June (cont) mings. Uncut grass and scarcity of runways and burrows corroborate this.

Looked at a snow bunting nest on the north side of an equipment building. It was well hidden in a pile of old metal. Willson, an equipment operator, showed it to me. We scared the mother off the nest; there were 5 young buntings in it. They were thickly covered by a gray woolly down, from which yellow beaks protruded. They huddled down in the nest when I looked in - I would guess they were 5 or 6 days old (post-hatching).

1 July

Pitt Point, Alaska

Temp 42° this morning, sky overcast. Longspurs and buntings were the only catch this morning. 12 white fronted geese were hanging around the ridge over Dry Lake. 2 flew around me in a large circle - one with a high pitched voice - the other with an old auto horn honk. Sexual difference in voice? Peterson is of no help here ("Kow-lyow or lyo-lyoh"). Questionable whether or not the geese are nesting here - weather is getting worse - a light drizzle began about noon, by 3 PM sea fog was

Journal

Sullivan J.
1967

Pitt Point, Alaska

1 July (cont.) moving in and out. Visibility very poor - 100 yards out - the module fades away. Started to pick up traps at 1700. Rain and fog were of no help... Fortunately we're on Sunday schedule at the station - so evening meal does not interfere with getting the traps. Finished by 2100. Visibility from line IV was quite poor. Couldn't see line III - but from III it was possible to see a small lake from which an old dirt road leads back to the site.

2 July

Pitt Point, Alaska

Still poor weather at Pitt Point. Worked on notes and awaited return flight to Barrow (weather permitting). 2 Pintails nesting within sight of the station - one on the north side, one on the south. There was a large herd of caribou (approaching 1000?) near the station yesterday. Fritzy, an old eskimo dog, gave fruitless chase to them. was easily outdistanced.

Bad weather continues: fog moves in and out - plus rain. Flying conditions poor - no plane for return to Barrow.

Journal

Sullivan, J.
1962

Pitt Point → Barrow, Alaska

3 July

Still overcast this morning. Called ARL concerning flight back. Fisher will leave soon (0810) - return with him.

0945 - left in OLE with Fisher for Barrow.

We flew in the sun above a dense cloud cover most of the way. Arrived Barrow at 1045.

Worked on notes, checking traps, etc. this afternoon. Pre-4th of July Happy Hour at 4 P.M. Jakei Martinis still pure gin.

4 July

Barrow, Alaska

Overcast with some sunshine ^(spotty) this morning. With Kiser to lines III and IV, which were set out on the 2nd. Saw 2 flocks of golden plover (15 and 22 birds) in central marsh. also 10 long tailed jaegers flying over Beach Ridge. ± 20 long tail in central marsh - feeding on adult crane flies which have emerged. (Kiser collected one a few days ago; its stomach was full of crane flies).

Wahchlag Slough has gone down - it is 6 or 8 inches below the top of the track. No captures in the lines. We went on to Ukpiak Slough for a look at bird life present. Ruddy turnstone, a few golden plover, and red backed sandpipers seen near Ukpiak. 2 loons in the slough (they flew - looked like arctic. also a couple of old squaw and 607

Journal

Sullivan, J.
1962

Barrow, Alaska

4 July (cont.) pintails. On the way back to camp saw 9 or 10 Steller's eiders by roadside (arrows road from Fresh Lake). 9 drakes and one hen - They flew in a circle & landed in the lake.

Hines, Holmer and I picked through the soil samples for insects this afternoon. Holmer is going out with the weasel this evening and will check traps.

5 July

Barrow, Alaska

With Mullen and Steven this morning to look for lemmings for blood samples. Went to drum area - then out past receiver site toward Beach Ridge. One snowy owl seen at far end of drum area - near Family (Salt no 2.) Lagoon. 1 Lemming taken. Weasel broke a track while back in drum area. Walked in - about $\frac{1}{2}$ mile.

Pulled in lines XIII + XIV this evening.

6 July

Barrow, Alaska

Picked soil samples this morning - with Hines this afternoon to Pitelka's census plot. Steven came after us in a weasel concerning an immediate flight to Cape Simpson.

It turned out that 3 people were lost on the ice and the pilots were needed to help search for them. The people were found.

Journal

Sullivan, J.
1962

Barrow, Alaska → Cape Simpson, Alaska

7 July

Fischer, pilot, flew me to Cape Simpson, left Barrow, 1150 - arrived C. Simpson 1220. Fischer ate at the site. Tundra looked fairly green on the way over - patches of ice remain on the sea - the lakes and sloughs are open. Visibility partly obscured by clouds. Saw no owls, jaegers, or caribou.

after lunch set out lines I + II.

Day still overcast. 4 long tailed jaegers in vicinity (no owls, no pomarine or parasitics). Grass looks green, not too high - but uncut - except in a few places where fresh runways are present. The lines at Simpson are a good ways from the site (the ends of III + IV are \pm 2 miles out).

Set out III + IV after supper. Still overcast, the 4 long tail still around - no other jaegers. Other birds: Red backs in 2's - sometimes in groups of 4. Pectorals - flocks of 3 or 2. Red phalaropes. 2 Arctic loons. 22 black brant.

Semipalm - occasionally giving the electric motor call - in the air. A couple of Bairds.

8 July

Cape Simpson, Alaska

Hot and sunny this morning (clear to 70°). Lots of caribou out on the tundra. Captured lemmings. Counted \pm 200 caribou within $\frac{1}{2}$ mile of line IV. One bull was

Journal

Sullivan, J.
1962

Cape Simpson, Alaska

2 July (cont.) apparently annoyed by mosquitoes (which were plentiful). The animal grazed for a minute or 2, then would run 10-15 yards shaking its head as it ran. The line of movement brought the caribou within 40 yards of me (eventually to the west of line IV - which was downwind from me). My scent brought the bull up short, he turned and ran back to the herd. The herd of ± 200 animals then started running straight south - away from me. After about a $\frac{1}{2}$ mile run the herd turned east - a lake barred further southward running. They soon were running north - and passed about 150 yards east of me. All the animals kept up. I could hear sounds of breathing and large hooves clanking through moist grass and soil. The herd ran through a part of line III - but only 3 traps were set off - none damaged.

Looked around for lemmings but found none. There are some fresh runways near line IV. Began to cloud over this afternoon. Checked lines after supper. Temperature has dropped to 30° F. Cold rain is falling. Captured a musk mouse.

Journal

Sullivan, J.
1962

Cape Simpson, Alaska

8 July (cont.) lemmings. Crane flies and mosquitoes which were in such abundance throughout the greater part of the day are now nowhere in evidence.

9 July

Cape Simpson, Alaska

Overcast this morning, temperature in the 30's. A couple of wet lemmings in the traps. Went with Larry Ahmaogak this afternoon to look at a snow bunting nest near the garbage dump. The nest was in a long pipe 5" in diameter. It was just beyond arm reach - the nestlings were practically fledged - They scrambled out of the nest and moved around in the pipe. The pipe was 15 ft or so long, and dark inside - I couldn't be sure that there were any more than 2 birds in it. Also found a red backed sandpiper nest - 4 eggs present but one of the 4 was on top of 2 others (rather than all pointing to the center of the nest). The eggs were cold - looked as though the nest had been deserted - or the parent birds killed. Checked traps after supper.

10 July

Cape Simpson, Alaska

Cold and overcast again today. Fog moving in then lifting then more fog.

Journal

Sullivan, J.
1962

Cape Simpson, Alaska

10 July (cont.)

Nothing in the traps this morning. About 20 old squaw in the lake next to (SE of) the site. Saw an all gray bird this afternoon with some black trimmings. Ran back to station - picked up shotgun - Found the bird again - collected it. Looks like an immature snow bunting that had gotten coated with coal dust - brought it back to Barrow. Traps in late this afternoon and this evening.

11 July

Cape Simpson → Barrow, Alaska

Still cold and overcast. Sea fog drifts in - then it clears for 15 minutes then you can't see over 50 ft again. Plane will be here today for return to Barrow. Murphy arrived in 06 Eho at 2230 this evening - back to Barrow sometime after 2300. Visibility extremely poor on this flight - just caught glimpses of sea ice and dark tundra. Ted Humphrey drove me to camp - in conversation I discovered that Ted was going to get John Hines for Murphy's final trip of the evening - to Cape Simpson (they didn't know I was to show Hines the trap line location, etc.). Hines was probably in bed anyhow - so the trip was set for tomorrow, it being - with

Journal

Sullivan, J.

1962

Cape Simpson → Barrow, Alaska

11 July (cont) Brewer's day.

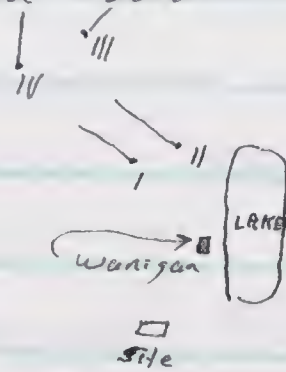
12 July Barrow → Cape Simpson, Alaska

Hines, Stevens, and I with Murphy (pilot) to Simpson in 06 Echo at 0830. Another cool, gray day. Scattered clouds on the way to Simpson - increased as we moved east. The site was rockier - clouds about 150-200 ft high. (There is a 200 ft tower at this site - which we couldn't see). We came through the clouds at 150 ft above the tundra. We were a good mile or more from the site.

The 3 of us walked around the trap lines once - The lines are not particularly difficult to find. There is a ^{elongated} lake sw of the station. Follow this lake to its southern end -

Lines I + II are visible to the East.

Lines III + IV can be seen from the end of line II.



The day remained overcast. Fog was extremely thick at times - We waited around the station for the return trip.

Murphy arrived at 2345. We were in board (06 Echo) at 2355 - still poor visibility but an open spot over the site -

13 July Cape Simpson → Barrow, Alaska.

Journal

Sullivan, J.
1962

Cape Simpson → Barrow, Alaska

13 July (cont) 0000 - 5 minutes out of C. Simpson. Heavy cloud cover obscured tundra and ocean below. At one point we were sandwiched between 2 thick cloud layers and the midnight sun was visible in the open space. Arrived at Barrow at 0025.

Hiner, Steven, and I put out lines I, II, IX and X this afternoon. A number of long-tailed jaegers around -

14 July Barrow, Alaska

with Hinier to trap lines - dropped him off at IX + X - I went on to I + II. We picked up 4 lemmings. Hinier and Mullen are in the final stages of preparation for the trip to the Inara. The float plane is back (or here - it's a new plane), and will soon be ready to go. Word now is that they leave 1st thing in the morning.

Hiner, Steven and I checked traps this evening. 1 Lemming + a few longjaws were taken. Processed this morning's take.

15 July Barrow, Alaska

checked lines this morning. 1 Lemming taken at 4.0 line II (the 3rd animal in 2 days at this particular site). 4.0 is a sort of bump - about 2-2½ ft high on the Hinier Ridge - it is laced with burrows. There is

Journal

Sullivan, J

1962

Barrow, Alaska

15 July (cont) a sort of depression between 2 elevated mounds here. The depressed area is moist and has a good grass cover - apparently a favorable lemming habitat at this time of year. All 3 animals were adults (2 ♂♂, 1 ♀). The ♀ had recently given birth to 6 young and was lactating.

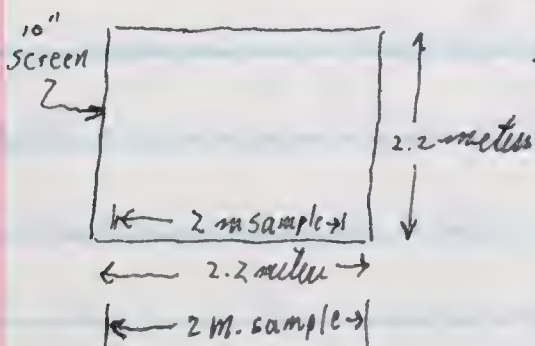
Went out to point sampling area on Beach Ridge and near Gas Line this afternoon. Worked on identification of grasses. Checked traps after supper.

16 July

Barrow, Alaska

checked traps this morning. Talked to Schultz about Point Sampling - we will go out this afternoon and do a few samples. Schultz is flying to the Laramie this morning, on the flight that is picking up Deliverted.

with Schultz to Point Sampling area by Beach Ridge - near the gas line. We ran through the operation inside and outside the enclosure. See illustration.



Journal

Sullivan, J.
1962

Barrow, Alaska

16 July (cont.) After supper Stevens and I pulled in line I, II, IX and X. Captured 1 lemming - line IX. We rushed back in time (2030) to hear Hal Peyton's seminar on Ice - It's Use + Disabuse. Peyton (in the last 4 years) has tested the mechanical properties of ice - primarily Sea Ice. Properties such as tensile strength, malleability + others. The talk was well presented and indicated that Peyton + co. peep in some long hours. A controversial point: Peyton found the crystals of ice to be oriented in a particular azimuth (on the horizontal plane - then oriented in one direction) - this phenomenon occurred in bottom ice (I think). Other investigators (ice-men) question this. So Peyton will spend next winter checking this phenom. in "bottom" ice off the northern Alaska coast. Heinek's imported brew was served at this function. All project (lemming) members attended (sans Mullen + Kiser - who are grayling fishing + lemming trapping at the Inarn River camp).

17 July Barrow, Alaska

Clear sunny sky - a very few scattered clouds. Hot. Mosquitos will be back today. To Point Sampling Area by lines 11 + 12 this

Journal

Sullivan, J.

1962

Barrow, Alaska

17 July (cont.)

morning. A fair breeze + OFF help combat mosquitoes. Took point sampler by High Polygon area on beach ridge near gas line.

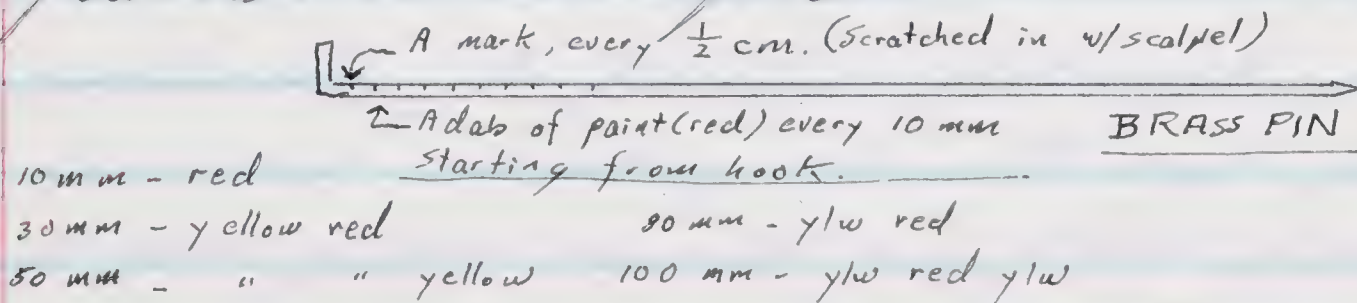
With Gary Stevens this afternoon - set out snap trap lines III A+B, IV A+B. Central portions of IV A+B still wet - shoe prints sink in a couple of inches.

18 July

Barrow, Alaska

checked trap lines, with Stevens, this morning. 4 lemmings taken, including one juvenile. Day: clear and sunny, fairly warm.

To Voth Area with point sampling apparatus this afternoon. 3 exposures (2.2 x 2.2 meters) done. Took a sample inside + outside the first. Also worked on marking pins to facilitate use in the field.



See also - papers concerning pt. sampling.

19 July

Barrow, Alaska

with Stevens to trap lines this morning. another warm day. Scratched away at pins for pt. sampling the rest of the morning. This is an exacting task, but makes reading easier in the field. Point sampled on Beach Ridge this afternoon. Checked lines with Stevens this evening.

Journal

Sullivan, J.

1962

Barrow, Alaska

19 July (cont). Mullen + Hines were due back yesterday, float plane has now left (w/ Mullen + Boyal for an 18 hr. flight to Canada) - pilot Zimmerman. Brewer will send plane to the Larran as soon as it's available.

20 July Barrow, Alaska

checked lines with Steven this morning. A couple more juvenile lemmings taken. To Voth Area for point samples this afternoon. Mike Adams helped Steven and me pull in trap lines III A, B IV A, B, this evening - in time for Schultz' seminar on nutrient cycles on the Tundra. Schultz talked mostly about phosphorus, comparing '59 and '60 levels at different times during the season. The talk was well-received; Heinkei was available. The fertilizer plot work was discussed including the ultimate fate of last year's growth: a flock of geese.

21 July Barrow, Alaska

Point sampled in Voth Area this morning. Overcast day, a slight drizzle falling, and cold. This afternoon Steven and I set out lines V + VI (Beach Ridge) and VII + VIII (Central Marsh). The marsh is still wet, many of the trap sites (toward the 10.0 end) are wet. Very few active runways.

Journal

Sullivan, J.
1962

Barrow, Alaska

21 July (cont) in evidence. Someone drove a wheel right across the lines (perpendicular to both VII + VIII) quite recently - the grass is still flattened.

22 July Barrow, Alaska

checked lines with Steven this morning. Finished marking the brass pins for pt. sampling. Sampled the last enclosure at Voth Area this afternoon.

2 lemmings taken in line this evening - one on Beach Ridge, one in the marsh, also some Red-backed s. chicks -

23 July Barrow, Alaska

Sunny and very windy this morning. Mark Boyd, Zimmerman + float plane returned early this morning. Mullen + Hines to be picked up "as soon as the pilots are rested".

checked lines V, VI, VII + VIII.

Hines + Mullen returned this afternoon.

Took point samples.

checked trap line this evening.

24 July Barrow, Alaska

Mark to leave today. checked lines this morning. Point samples this afternoon. Hines + I set out lines XIII + XIV this aft. Fertilizer plot is quite wet, little sign of lemming activity.

Pulled in line 5, 6, 7, 8 after supper - with

Journal

Sullivan, J.

1962

Barrow, Alaska

24 July (cont.) Hines + Stevens.

25 July Hines to lines XIII + XIV this morning while I took point samples.

Set out lines XI + XII this afternoon (with Hines). These will finish the 2nd running of the Barrow lines. XI + XII also look quite wet - shore birds present (RB's, semipals.) but little lemming sign. Runways look like last winter's.

26 July Barrow, Alaska

Piper is to lead an armada (2 wrecks) Schultz, Ashley (Bokunack's suit.), Boyd out, the Boych, J. Kelley Carranda, + various others. 8 AM, however, was too early for all but Schultz, Piper, Ashley, and one. A. + I in 331 (the worst wreck on the line!) to lines XI + XII first - then across to the Fertilizer plot. While I checked the lines, Ashley gathered bug samples: he took a soil core about 3" in diam down about 2". Bokunack is studying collembola + mites (distribution + numbers ??). The day was cold (38°), sort of clear-gray clouds overhead - but holes in them here + there. Got 4 Lemmings at 11 + 12, one at the "Fert." plot (in the dark green fertilized area though). 331 wreck has improved since I last worked it

Journal

Sullivan, J.

1962

Barrow, Alaska

26 July (cont.) over the tundra; difficulties have been reduced to: (1) Difficult to turn, (2) Overheat, (3) Burn oil, (4) Fill rear part of vessel with smoke - where passengers sit, (5) windshield still badly cracked, one steer through sort of a wire screen mesh. At Fertilizer plot, Schultz and I talked about point sampling here. Ought to have: 2 enclosures in the fertilized area - 2 outside. One in the fert. area - in mixed vegetation, one in *Dryopteris*.

This afternoon graphed heights of vegetation from point samples.

27 July

Barrow, Alaska

Rain + fog today. Checked lines this morning, and worked on pt. sample data. Schultz and I will meet today or tomorrow to discuss the data. Steven and I - to Fertilizer plot this evening to pull in lines XIII and XIV, while Helen checks XI and XII. No Winplane today (fog).

28 July

Barrow, Alaska

checked XI + XII this morning. Got together with Schultz on the pt sampling data. I had graphed the highest point of the vegetation at which a pin had hit (inside and outside the enclosure). Schultz recommended graphing: (1) green hits, (2) dead hits, and (3) making a table of green hits according to species.

Journal

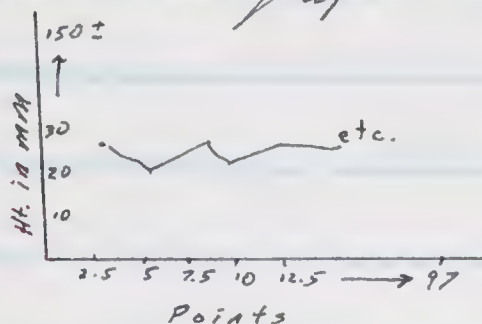
Sullivan, J.

1962

Barrow, Alaska

28 July (cont.)

what I had graphed looks like this:



This graphing did not differentiate green from dead hits, nor indicate spp. composition. Schultz wants separate graphs for green + dead hits.

... plus a spp. comp. table

This evening Kine and I pulled in lines XI + XII, completing the second running of the Barrow Lines. There was a happy hour for the Peytons, who are leaving tomorrow.

29 July

Barrow, Alaska

Fog has lifted somewhat today, and the Win plane comes in (didn't make it out today or Saturday). Schultz and Peytons go out on the plane. Working on notes in lab this afternoon. Pieper came in and announced that A.M. Bailey had arrived at Barrow, and would visit our lab. Kine + I were present; Holmes, in the field, Pieper went to look for Mullen. Half an hour later Mullen came in with Bailey, Brower (Tom), and Wells - (an unknown). They looked around and chatted for 5 minutes about the "old days". Bailey seemed very relaxed and personable, Brower appeared affluent, and Mullen carried the conversation. Later Holmes went into Brownsville to talk with Bailey.

Weather is still not particularly good for

Journal

Sullivan, J.
1962

Barrow, Alaska

flying. The second trip to Wainwright is scheduled for tomorrow. We hope to get the outcamp run before starting the third run of the Barrow liner.

30 July

Barrow, Alaska

Brewer has to make up for lost flying time today. Two flights to Anaktuvuk Pass will be run today - and Wainwright tomorrow (we hope). Worked on pt. sampling graphs in lab.

31 July

Barrow, Alaska

Awaiting flight to Wainwright. Helped Gary in the colony this morning. Procedures: remove, weigh + record all food remaining in each lemming cage; subtract from food given the day before, thus getting food use per day. Same with water (measured). Weigh lemmings (every 4th day - this is a weighing day). Easiest weighing method - balance 2 coffee cans (2 lb cans) on scales. Dangle lemmings in cans - most lemmings can't get out. In weighing litter - smaller pups are weighed together (litter wt). Pups past toe-clipping + marking are weighed individually. Litter seem to run around 9 pups. Individual temperaments of adult lemmings can be observed. Steven handled a few easily (no bite), most could be picked up

Journal

Sullivan, J.
1962

Barrow, Alaska

31 July (cont.) with the bare hand by gripping the skin between the scapulae, a few required the use of a leather mitten - and would bite anything. Another method was to place the coffee can in the cage and herd the lemming into it (the more efficient method, it seemed).

Weather cold, overcast some rain today.

1 August Barrow, Alaska

Still awaiting flight to Wainwright. Worked on progress report for July. "Bluebird" weather today. Wainwright trip again put off. Worked on pt. sampling graphs. Flight may occur after supper - stand by.

2 August Barrow, Alaska → Wainwright, Alaska

checked with the office concerning Wainwright this morning. Wainwright flight should be leaving at any moment. Steven to go along to learn trap line location and to help set traps. 10:20 Murphy, Steven, and I in OXE to Wainwright. Steven and I set out the lines right after lunch. It was a hot day - mosquitoes were abundant. 3 Pomarine, 2 Long-tailed jaegers and 3 snowy owls were seen.

after supper Steven and I went out to hunt for Dicrostonyx. Saw what I think was a juvenile red-throated loon in a tundra pond. It went under and surfaced a

Journal

Sullivan, J.
1962

Wainwright, Alaska

2 August (cont.) number of times - trying to evade us. Stayed under for varying lengths of time - 5-15 seconds (approximately). around 2300 we went back to camp. Sunset for the first time this summer.

3 August Wainwright, Alaska

43 Lemmings and 1 Dicrostonyx in the line this morning! a real haul - I checked the trap, while Steven hunted for Dicrostonyx - with no luck. Mullen would like some for comparative purposes in the lab. Day was hot - mosquito murderously. During lunch Staley (a new pilot) arrived - with Rick Czekley (insect collector - Bohemian). Steven returned to Barrow with them - taking specimens along. More Lemmings in trap this evening - also set out 2 live traps for Dicrostonyx.

4 August Wainwright, Alaska

Billy Patkotak, eskimo employed at the Dewline Station, reports 3 five mile snowy owls were captured by Wainwright eskimo children - one was left for the parents (1 owl). Thus enough lemmings to support owl breeding in the vicinity of Wainwright Village. Billy is a reliable observer - can pick the familiar birds out of Peterson guide (most of them).

Journal

Sullivan, J.
1962

Wainwright, Alaska

4 August (cont.)

Still no more collared lemmings in the traps - lots of longspurs taken. a fair number of western meadowlarks seen today (± 6). Juvenile red-backs common. Clouded over this evening and a cold rain fell.

5 August Wainwright, Alaska

More Lemmus taken - still no more Dicrostonyx (only the one juvenile taken on 3 August).

Clarence Nolan received the paint for the ARL boat - but has been out on R+R. ... boat not painted yet. Brewster also sent Nolan some live traps for foxes, which he will soon set out. Nolan says the foxes start "moving around more" in the fall.

Plane is to be here around supper time to pick me up - so I have the traps in by 1745. Only one Dicrostonyx taken - lots of Lemmus taken on line IV where I got most of the 15 D. in June. Possibly the brown crowded the collared out of their habitat in the tundra irregular ridge along which line IV runs. No plane has shown up by bedtime.

6 August Wainwright \rightarrow Barrow, Alaska

Murphy and Gil

(Schmack's star)

Journal

Sullivan, J.
1962

Wainwright → Barrow, Alaska
(August (cont.)) assistant arrived in 04 E. Gil collected with a sweep net for about 30 minutes.

Paired over from 1-2,000 caribou on the way to Barrow. also: Tundra owls, 3 jaegers (sp?), hundreds of glaucous gulls, 3 walrus on the beach (~~dead~~ - gulls feeding on them). ± 6 dead seals on the beach.

We were advised about 5 minutes past Lig C that Barrow was locked in, circling O. Murphy flew steadily onward. Traffic was in the Barrow area: Win Alaska F-27 and a Beechcraft - both of these gave up - one flew on to Umiat the other back to Fairbanks. Murphy followed the coast line at about 25 feet - and set us down nicely on the runway - which had been just visible from the coast.

Set out lines I and II this afternoon, lines IX and X after supper.

7 August Barrow, Alaska

Set live traps this morning, no signs of increased activity. Clipped grass and placed it in traps. Checked lines I, II, IX and X. Plan to move lines VII + VIII in Central Marsh. Because of trampling effect of lemming trappers. Tundra worn down along these lines, and water

Journal

Sullivan, J.
1962

Barrow, Alaska

7 August (cont) collect in pockets.

8 August

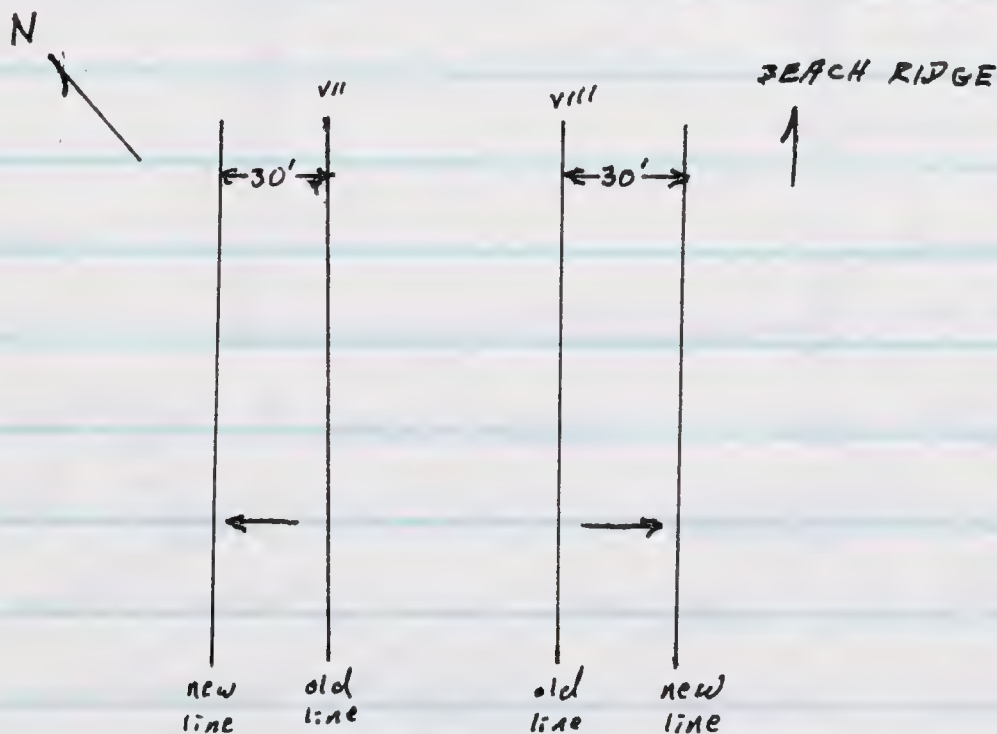
This morning checked I, II, IX + X with Steven this afternoon to set III A, B; IV A, B. Latter lines are quite wet - an inch of water along much of the lines (particularly IV B).

Live Trap checked - no captures.

9 August

checked: I, II, IX, X, III A, B, IV A, B. With this many traps out (1,224) seeking the lines consumes the better part of the morning.

Today, Kine, Steven and I moved lines VII + VIII (Central Marsh).



We used ~~the~~ stakes from the old lines - merely shifting them, as we worked down the line. With 3 men and a 100' steel tape the job went rapidly. Lines I, II, IX + X pulled in after supper. III A B, IV A B checked.

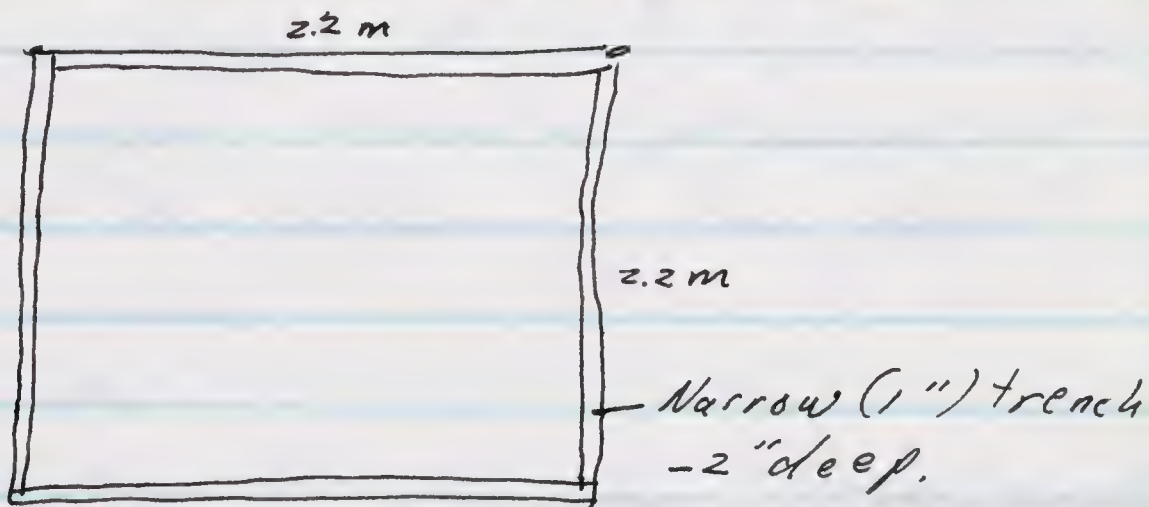
Journal

Sullivan, J.
1962 Barrow, Alaska

9 August (cont). Kiner and I saw a white-winged scoter off-shore along the gravel road back to camp from Voth Area.

10 August Barrow, Alaska.

checked III A, B; IV A, B - 2 Lemmings, in spite of wet. This afternoon Piper and I set up excluder at the Fertilizer Plot. The ground was wet presenting difficulties. Eventually we had to dig a narrow trench a couple of inches deep in order to get our wire screen placed in the ground.



We set up 4 excluders: 1 in Dupontia inside the fertilized area, 1 nearby-outside. The other set - 1 in mixed fertilized - 1 nearby-outside fertilized area.

Took point samples in Voth Area today, also. Kiner and Steven set lines V, VI, VII and VIII while Piper and I were at the Fertilizer plot. While returning from the plot, saw a LTS attack a phalarope (in the air) in Central March - wooded and

Journal

Sullivan, J.
1962

Barrow, Alaska

missed twice - then lost to sight.

11 August

Barrow, Alaska

checked I, VI, VII + VIII. Took point samples at Fertilizer Plot and Voth area today. While south of Wohlukley Slough - in clear machine - saw can took back at Barrow - under heavy fog. and see the planes circling in efforts to land. III A, B and IV A, B pulled in this evening.

12 August

Barrow, Alaska

continued point sampling at Fertilizer Plot this morning. checked: I, VI, VII, VIII and Live Traps. Finished pt. samples at Voth area this afternoon. Line hauled again this evening.

13 August

Barrow, Alaska

checked lines this morning. Took pt. samples at Fertilizer Plot. Hines and Stevens at Lake Petter - so got Pipers to help pull in I, VI, VII + VIII. checked lines XI + XII today (Rick Ashley came along to pursue insects). Trap lines extremely wet. I was wearing hip boots - and needed them. Water was 8 inches deep at the o point of line VI. Parts of III were fairly dry - but decided against a re-run of these lines. Greater part was under 1"-2" of water.

Journal

Sullivan J.
1962

Barrow, Alaska

14 August

Set lines ~~III~~ and ~~XIV~~ this morning above, Hiner + Stevens at Peter. These lines (like ~~VI~~ and ~~XII~~) were wet. In general - the water was more evenly distributed - average condition along the line $\frac{1}{2}$ " - $\frac{1}{2}$ " of water. Some dry spots existed. Set the lines even though conditions were poor.

Clipped grass for Mullen-Stevens (see Adams) feeding trials. Continued point sampling at F. Plot.

checked lines this evening.

15 August Barrow, Alaska

checked ~~III~~ and ~~XIV~~ - no take. Lots of traps sprung (many floating on an inch or so of water - wind might have blown water onto treadle - snapping trap). Took point samples; helped Piper set out lysimeter and such. - Piper is setting these along Beach Ridge and in Voth Area (near lines ~~VI~~ + ~~XII~~). checked lines this eve.

16 August Barrow, Alaska

checked line this morning - no captures as yet. Continued point sampling and worked on pt. sampling data in lab. Since ~~III~~ and ~~XIV~~ were set out on the 14th (a.m.) - they will have to stay out till morning for the full 3

Journal

Sullivan, J.
1962

Barrow, Alaska

day run. Vince and Steven to the Inarn today for the second running of the lines. Live traps pulled in today.

17 August Barrow, Alaska

- with Pieper to the Fertilizer Plot to pull in XIII and XIV. Helped him set lysimeters and clip, etc. Apparently this is part of Van Cleave(?) study. Remaining droppings are set out over the winter - deterioration, loss of elements, etc - in checked.

18 August Barrow, Alaska

Finished point sampling at Fert. Plot today. Put things in order for departure on 20 August. Packed some longspur wings which were collected for Maher (from trap-line catches). Maher is going to try to determine age of longspurs taken by jacks and owls by matching the humerus from the collected wings with its connecting socket (acetabulum) in his pellets - collected previously.

19 August Barrow, Alaska.

Packed up and worked around lab in preparation for departure tomorrow.

Journal

Sullivan, J.

1962

Barrow, Alaska

20 August

Wien Plane in at 1040 AM. — Hines and Stevens arrived back from Imanu at practically the same moment. It happened that there was a cancellation on the plane — so Hines decided to try to make it. Mullen, Holmes, Stevens and I joined in crutching Hines' belongings into his suitcase, etc. Fortunately Brewer managed to detain the airplane (a commander friend of his — also wanted to make it — and would be a little late). So Hines and I both made it — we raced to the airport — with Mullen at the controls of a jeep — then stood around till almost noon — and boarded the plane.

Sullivan, J.

1961 - 1962

Alaska

Trapping Data: 1962

Mark and recapture

① Set traps, ^{in horizontal position &} nestled well so that trap door is flush with runway or ground surface

② Place cake of wet fresh green forage in box, along with a handful of surface litter (cut grass, etc).

③ Map plot.

④ For caught animals, in addition to ~~marking~~ ^{1- date}
~~trap number~~ ^{2- time}

3- mark applied to animal

4- sex
5- pelage
6- ~~wt~~ estimate } 1st time taken

Also, for ♀♀,

7- pelvis up or cl

8- teats + or -
or lact.

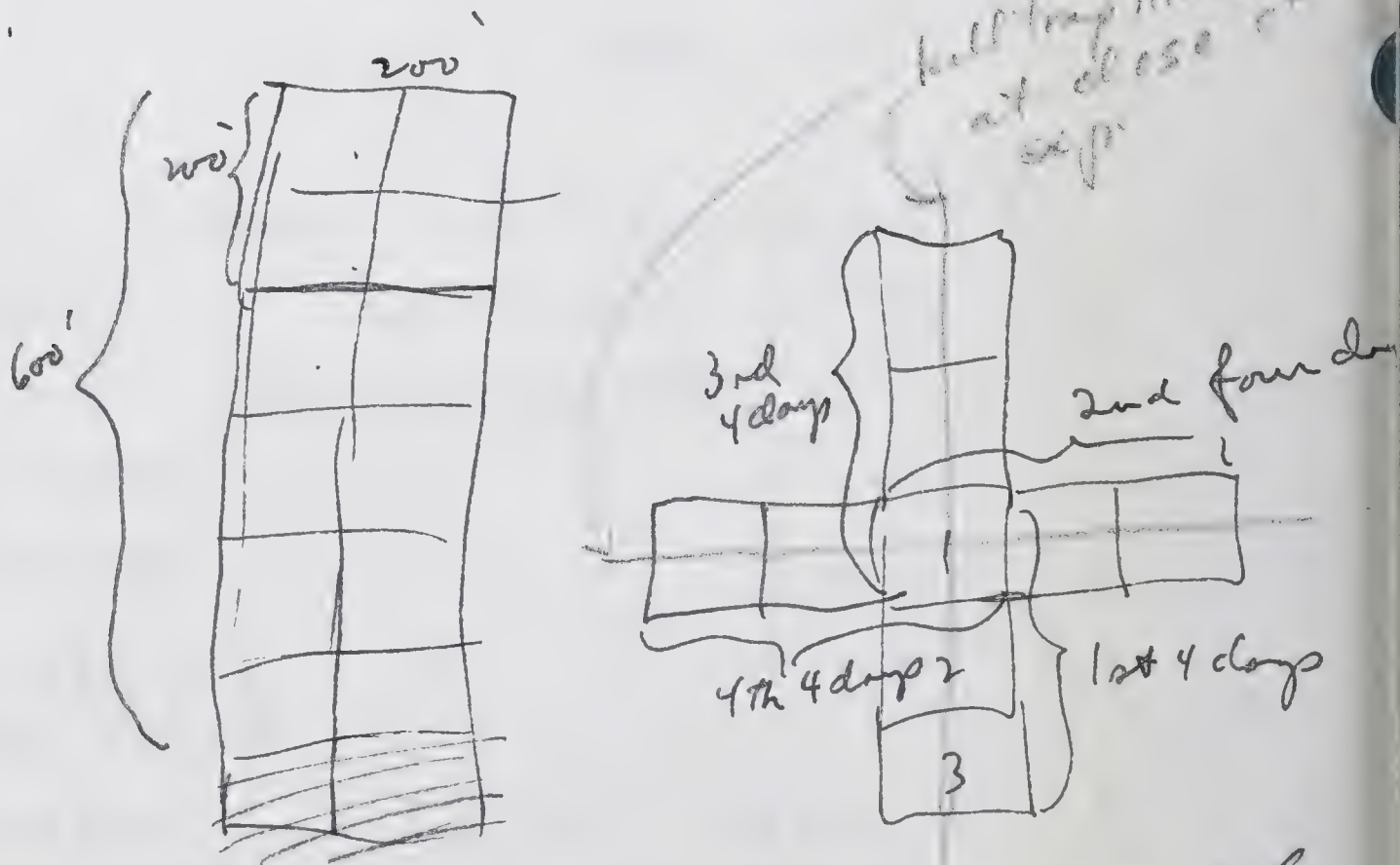
9- direction, distance, & path of travel from pt of release (at trap), entered on map, followed by observation with as little disturbance to animal as possible.

(see over)

Plot II worth re-running after mid July. Try also other areas on flat, ^{or moderately polygonized} terrain to N & NW of Plot II.

Stakes in grid fashion will identify areas used by Warner in 1960. Or set out plot to suit yourself. But stick

to plan of 7 traps per 50x50-foot or 100x100-foot units.



I suggest that you pick one of the extensive ~~polygonized~~ ^{continuous} flats and do a 12-day or 16-day run ^{2 or 3} acres at a time, rotating about acre 1 so that it is included in each run. See diagram. Modify ^{or adjust} design according to supply of traps. At close of 12 or 16 days, run trap lines in usual way.

3 per stake every 20 feet, to kill
trap any animals present, including
marked ones.

Place lines ^{two} along ^{axis}, down middles
of the crossed rectangles (see
diagram).

Do this as per above design, or

run live plot for 12 days then skip
a week or so, repeat 12-day run, &
then kill out. Modify ^{design} ~~suggestion~~
of terminal kill-out as you see fit.

Describe design you adopt fully
in your notebook.

6/10/11

Have today

shows of 4 beach ridge near gullie
4 on the polygon at plot area -
strew, web chow
Saw 1 Lemmings
5 eggs
1 Sn owl.

and being completed!

Thurs 26 - beach hair
Fri 27 - high Rain w/ St - Happy Hour 11/12 6-2 22
Sat 28 - 11-14 in 11-12 in 13/49
Sun 29 - Fog AM Bailey to Bar 26
30 - Fog to Ward - X

36
40
41
19
23
36
27
22
28
1
299

305

68-200
12-305 26
4/105

1962 Barrow-Alaska Live Traps

15 June Redistributed live traps. Set 68 in this pattern
(1000-1100)

GAD LINE

	I	II	III	IV	V
1	4	4	0	4	
2	4	4	0	4	
3	4	4	4	4	
4	0	0	0	4	
5	0	0	4	4	
6	4	4	4	4	
7					

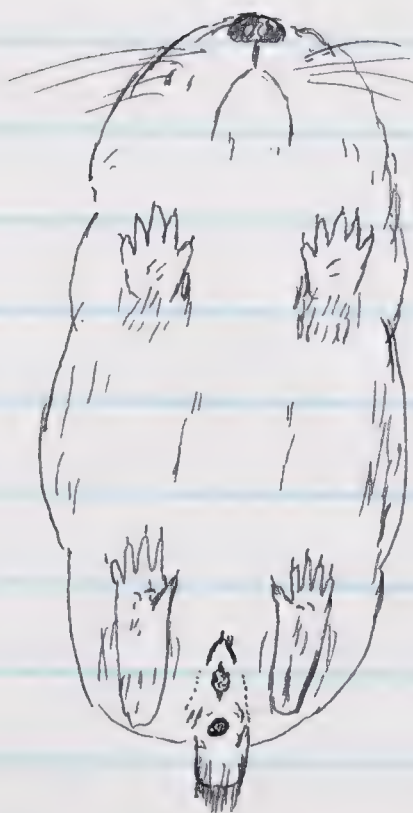
Sullivan, J.

LIVE TRAPPING

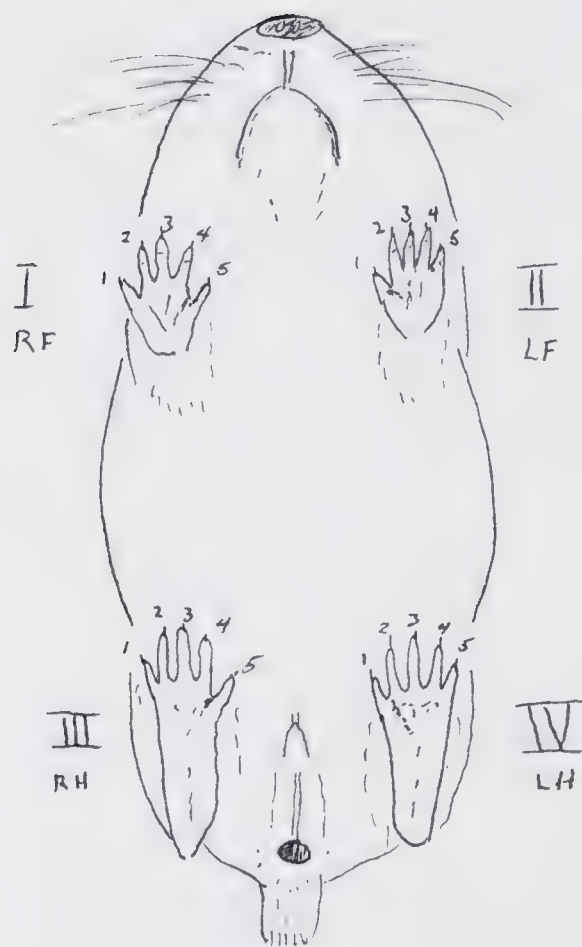
Lemmus



Juvenile ♂



Juvenile ♀



Live Trapping

1010 ad ♂ Lemmus 12 June

1001 ad ♂ Lemmus 15 June

1002 ad ♂ Lemmus 15 June (captured 10' from gas line).

1003 Ad ♀ Lemmus 17 June

1004 Ad ♂ Lemmus 17 June

1005 Ad ♀ Lemmus 18 June

2001 Ad ♂ Lemmus 20 June

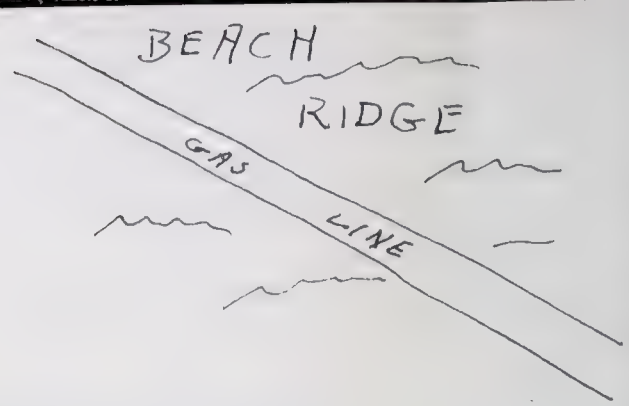
~~2002~~

~~2003~~

~~2004~~

~~2005~~

~~3001~~



4	x		x	x	x	x
3	x		x	x	x	x
2	x		x	x	x	x
1	x		x	x	x	x
	y		ly	///		l

Sullivan, J.

1962

Barrow, Alaska

Live Traps

11 June 1500-1730 Kinee and I set out traps at the plot where Beach Ridge joins the gas line. 5 rows of 4 traps each (20 traps) were set out. This was the amount permitted by snow conditions - many stakes remain under the snow. 4 extra traps were set on high polygons near runways. The 20 traps were set within 6 feet of each stake in runways or any likely looking place. Grass was put in the traps for warmth, but chow was also put into the traps. Weather: clear with some clouds, cool $\pm 37^{\circ}$. Tundra: wet ice and snow melting. A dead lemming was seen on the side of a high polygon, owl feather - also on the polygon. (Possibly an animal for display purposes - for the owl).
2200-2220 checked live traps - nothing.

Saw a lemming run under a drum by the gasline. Kinee and I loosened the drum from the snow, flipped it over and captured the lemming.

12 June 0830 - nothing

1645 - 1 ad or lemming 1010. III - 4

2200 - nothing \ Ran along side of polygon. Butted into snow - made an opening for himself.

13 June 0400 - nothing

0945 - "

1620 - "

2120 - 2 Snow buntings - 1♂ 1♀

14 June 0400 - nothing

Barrow, Alaska
1962

Live Traps

- 14 June 0800 - nothing
1715 - nothing
1945 - "
- 15 June 1000 - 1 ad ♂ Lemming III - 4 marked 1001[?] (1001)
1645 - nothing (1 Lemming observed 10' from gas line - on high polygon). Lemming captured - marked 1002 - Released.
2155 - nothing
- 16 June 0830 - "
1630 - "
- 17 June 0810 - Ad ♀ Lemming 1003
2145 - Ad ♂ Lemming 1004 III-3
Dead ad ♀ Lemming w/copulation plug III-3⁽⁵³³⁾
- 18 June 0830 - 573 Ad ♀ Lemming 1005 (new). ran into hole
402 1007 recaptured -
- 19 June 0900 - nothing
1500 - "
- 20 June 0900 - 2001 Ad ♂ Lemming 573 tested banded
Ran to hole - 6 ft away -
1545 - nothing
2100 - "
- 21 June 0830 - "
1600 - "
2045 - "
- 22 June 0830 - " closed traps -

Mark - Release

1962 Barrow, Alaska

13 June 1011 ad ♂ Lemmings (just beyond Beach Ridge)
Captured by hand, marked and released.
ran under snow - short distance away.

Sullivan, J.

1961 - 1962

Alaska

Feeding Observations: 1962

Sullivan, J.
1962

Feeding Observations

Barrow, Alaska

22 July Observation on 4 Ad ♂ Lemmings released in
Mullen's enclosure no. 4.

Begin Test:
1050

1050 + Lemming Ad ♂ released. Marked w/arrow dye:

Yellow tail -

Yellow head -

Red rump -

Red head -

1054 - flew hot - head up peering around - down again
lost in grass

1055 - unidentified L - chewing at base of arctophila -

1056 " L standing tall - sniffing - down again

1057 " " running along screen - starts to climb - back
down.

1058 - R.R. tries to climb screen - fails at curve.

1059 - L - rushing thru grass -

1100 - L - at NW corner trying to climb screen.

1100 - RR - NW " " " " " runs into L -
fight - face ea. other squeaks. L rises - L
runs off -

" More squeaks NW corner.

1101 L standing tall - sniffing

1102 L-NE + L-SE corners at screens - exploring

1103 L N side on screen - jumps down climbs again 10"
to rt. (E)

1104 L exploring East side screen.


1105 L. at WC sniffing. Run to NE corner climb screen at NE
corner - stopped by corner.

Feeding

Sullivan, J.

1962

Barrow, Alaska

- 1106 L.  bounding thru grass - close to N side
- 1107 L at SE corner - moves off into grass.
- 1108 Grass moves as L tunnels thru it (seems to be on an old runway).
- L. at NC corner
- 1109 Fight at NW corner - Pursuit along N side \rightarrow E then Pursued chase pursues to W.
- 1110 Two L bump into each other on N side. Squawk - Both bound away.
- 1111 L. up sniffing NC.
- 1112 L moving S on E side - chase to outside talking 40 yds to SE - turn run back to NW.
- 1113 Fight at NE corner - squawk - both run.
- 1114 L moving S on E side.
- 1115 Fight + pursuit NW corner - squawk
- " - SW - churring.
- 1116 " hot pursuit NE \rightarrow SE one holding other by jaw - other 2 or 3 running along N + W side.
- 1117 Fight over
- 1118 RH at SE corner - run to NE - RH climb NE corner, back \rightarrow SE corner - Turn starts to NE
- 1119 2 L meet NE corner - both turn and run back in direction they approached from.
- End test: 1120 churring noises from NC.
- 1130 capture and remove last lemming (yellow head).

conclusions: 1. more than 1 ad σ in a small (2x2 m enclosure) seems to be too many!

Feeding

Sullivan, J.
1962 Barrow, Alaska

- Test no. 1 Conclusions (cont) : 2. Grass was too tall. Much *Arctophila* ± 15 cm - lemmings were hidden most of the time.
3. Lemmings need more time to settle down - spent the time : (1) exploring (2) fighting or running from aggressors.

Sullivan, J.

1961 - 1962

Alaska

Species Accounts: 1961 - 1962

Sullivan, J.
1961

Davia stellata

- June 19 Voth Area 1845 - a loon flew over going toward Barrow Village. Species not certain.
- June 20 Two red-throated loons were on Lake Ikroavik today. As I neared the lake in a weasel, one of the loons flew up, the other dived. The one in the air flew near and then circled the lake.
- June 24 Holmer spotted a nest by a tundra pool between Ukpiik and Wolikheag Slough. It was constructed right next to the water. The sides were of mud and sedge and slightly elevated (1 in. - 1½ in.). Two olive colored eggs were in the nest. The loon had flown off as we neared in the weasel. a slide (6-8 in. long) had been constructed between nest and water.
- June 27 2 loons dead outside lab. "Collectors" were looking for parasites (one was a ♂ red-throat). The other a ♀ arctic. These birds had been caught in a gill net set for fish in Lake Ikroavik.
- July 14 Pitt Point, Alaska. a ♂ red-throated loon often together - fishing or flying.

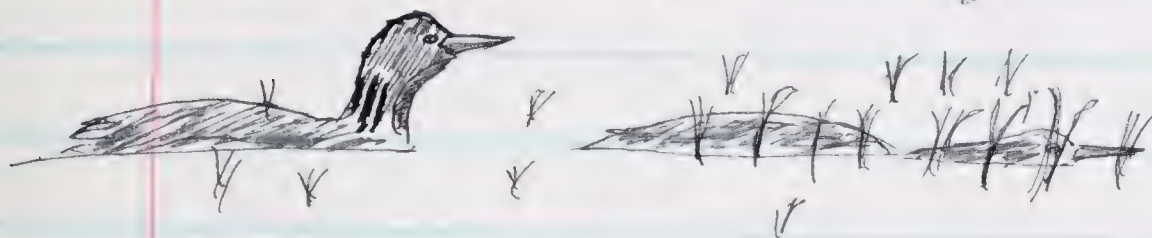
Gavia stellata

Sullivan, J.
1962

23 June

Wainwright, Alaska

Saw a pair of red-throats in a pond about $\frac{3}{4}$ of a mile from the site. One of them stretched out and lay very low in the water, partially screened by *Arctophila* when it saw me. The 2nd loon kept looking around - behind



the 1st
bird. I

crouched down

and watched for 10 minutes or so. After awhile the 2 birds swam out into the open part of the pond (out of the grass). They floated quite close to each other (12") but kept "nervously" craning their necks and looking in my direction - first with one eye then the other. After a few minutes one of them gave a "croaking" call - a single call - and both flew off passing about 15 yards from me.

Sullivan, J.
1961

Scavia arctica

- June 25 Barrow, Alaska. Arctic loon fishing in small lake in central marsh.
- June 26 2 Arctic loons in lake in central marsh.

Anser albifrons

Sullivan, J.
1962

Barrow, Alaska

14 June

Saw 4 by N. reg. Lake on the way to Ikroavik.
In company with 26 black brant, \pm 30 pintail.
Geese were on shore, open water near them -
ice farther out on lake.

Chen hyperborea

Sullivan, J.

1962

Barrow, Alaska

14 June

snow goose flew across Holm's camp area
by Ikroavik.

Branta canadensis

Sullivan, J.

1962

Barrow, Alaska

14 June 2 near Lake Ikroavik - flying. First live seen
in Barrow area.

Sullivan, J
1961

Branta nigricans

black brant

June 10 a small flock south of ARL - flew by.

June 20 Two brant were seen in the dimmed bottom
of Footprint Lake while Holmer, Bohanack
and I were on the way to Holmer's study plot.

Sullivan, J.
1961

Anas acuta pintail

- June 9 Saw many on trip to central marsh (150?).
Droopy flight characteristic. Birds are
traveling in flocks. Do not appear paired or yet.
- June 14 Single pintail flew over beach ridge at 1250
quacking continually. There was some fog
and the bird appeared to be trying to
contact other pintails.
- June 17 Located a pintail nest. 1 yard from trapline III A
station 3.6, 5 eggs in nest. I noticed the hen
walking away from the nest as I was putting
out the snap traps (with Holmes) from 1530-1715.
- June 18 1845 - 6 eggs in nest tonight.
- June 19 0910. The eggs were missing from the nest. Some
nest material was scattered up to 2 feet from
the nest. There was no sign of the eggs.
- July 13 Pitt Point, Alaska - some pintails present here.

Sullivan, J.
1961

Polysticta stelleri St. Eider

- June 10 A group of 12 birds: 6 ♂, 6 ♀. south of ARH toward village. Swimming in water. Round black spot on side of breast of ♂. Underparts - buffy.
- June 11 6 birds - 3 ♂, 3 ♀. Walking toward central marsh from the west, I saw the eiders sleeping. As I neared them (150 yds) they became alert. Waddled into a pool away from me. I squatted and observed after approaching to within 100 yds. All except 1 ♂ began bathing vigorously (displacement?). All birds made flight intention movements - rose on tail - flapped wings a few times - settled back in water. After 5 minutes they flew off - a ♀ in the lead.
- June 15 While inspecting trap lines on beach ridge (0800-0830) I happened to see 2 pairs of stelleri take flight from a small pond. They flew about 150 yards north and alighted in another pond. Some 10 minutes later as I neared the birds, I scared up 3 more stelleri (2 ♀, 1 ♂). These flew past the other 4 which also got up, and the 7 flew up, circled to the west flying low (10 ft)

Sullivan, J
1961

Polysticta stelleri

and then flew off to the north at about 15 ft.

June 17 Holmer and I saw a mixed group of Steller's and King eiders (roughly 25 birds) on Family Lagoon at 1515. As the weasel approached the flock got up and landed 300 yards away in the same lagoon. Four pintails were spotted at this time.

June 20 There were 7 Steller's eiders on Lake Ikroavik today. They were loafing on a sand bar out on the lake - and flew off as I neared in the weasel.

Polysticta stelleri

Sullivan, J.

1962

Wainwright, Alaska

25 June

Pair of Steller's fairly common at Wainwright.
3 pairs seen between site and end of trap
lines.

Sullivan, J.
1961

Somateria spectabilis King eider.

June 9 Flock flew up from water toward sea from central marsh. White head, dark body.

June 17 Holmes and I saw a mixed flock of Steller's and King eiders at 1515 in Family lagoon. See Steller's notes. 4 pintails were also in the flock.

Sullivan, J
1961

Clangula hyemalis Oldsquaw

- June 10 On trip south of ARL w/ Holmes toward village of Barrow saw 3 old squaw - sitting on water.
- June 12 By road enroute to central marsh - a pair of o.s. in water by roadside. ♀ dived. after 20 sec ♂ also dived, (♀ still under).
At central marsh - another pair in a pocket of water on beach ridge (11 AM). Chamberlain wanted a blood sample - fired and missed just as birds got up and flew off to east.
- June 13 ♂ in pond just to south of road beyond bridge as you leave ARL area. Bathing + sitting on water.
- June 16 Family lagoon: at 1600 this afternoon I saw a ♂ Clangula out on the open water. His head was below the water (loon-like) apparently searching for food. A red phalarope was fairly near the duck (25 feet?).
- June 18 A flock of 21 oldsquaw were seen by Holmes and I on Family Lagoon at 1815. The ducks were mostly facing toward us and gave a very black appearance.
- June 27 On a small lake between beach and gas line

Sullivan, J.
1961

Clangula hyemalis

June 27 (Barrow, Alaska) ridge there were 2 flocks of old
squaw. One of these flocks consisted of one
drake and 12 hens. As I neared in the
weasel the flock flew up - circled low - and
landed 150 yards farther down (in the lake).
Then they climbed up on the bank. I approached
once more but very slowly. At 50 yards the
birds moved into the water; at 30 yards, I
cut the motor. Some of the hens were preening.
I watched the drake scratch his face - he did
not reach over the wing (as magpies do). A couple
of hens appeared to be feeding; they dived for
periods of 6 to 25 seconds. Couldn't see
what they were bringing up - if anything.
The drake approached a hen - (to copulate?) in
this manner: swam low and stretched out in the



♂ old squaw approaching ♀

water. The hen shook her tail and swam off.
The drake never got closer than 6-8 in from her.
The hen did not permit copulation (if that was the
intent of the ♂). The drake approached a 2nd hen
in the same way and was again rebuffed. The
appearance of a limping discontinued observation.
However at 0950 I observed a pair of old squaw
together in a small pool near the bridge at the
camp entrance. This raised the question: Why

Sullivan, J.
1961

Clangula hyemalis

- June 27 (Barrow, Alaska) some flocks and some pairs? Are the flocks composed of not yet mated birds? Are they feeding aggregation?
- July 5 Shore ice had returned and lay in the sea in scattered patches a little way off shore. A flock of oldsquaw were feeding in a patch of water among the ice. One would dive below and was followed in rapid succession by all the others. After about 20 seconds the flock would bob up to the surface.
- July 10 Pitt Point, Alaska. flocks of oldsquaw loafing on bank and swimming.
- July 17 Bull Lake → Barrow Some large flocks (50?) of oldsquaw in lagoons. Birds ran from sandbars into lagoons at approach of the plane.

Sullivan, J
1961

Pluvialis dominica - golden plover

Barrow, Alaska

June 9 Slow wing beat (short-ear owl like)
voice: ~~peep~~ peeps

June 10 South of ARL toward Barrow village. feeding.

June 12 mounted a bird collected by Chamberlain.
(see catalog).

June 14 A golden plover fed near a pair of phalaropes,
and was ignored by them (see phalarope).

June 26 20 or so dominica were observed feeding just
below beach ridge in central marsh.

Sullivan, J.
1961

Arremonia interpres ruddy turnstone

June 10 Barrow, Alaska. Saw 1 ruddy turnstone w/ Holmer in central marsh. Bird flew overhead, landed, and proceeded to feed.

June 18 1840 Voth Area near trapline III B. A ruddy turnstone flew by about 4 ft above the ground. It landed about 100 yards away (toward the beach road).

June 19 0900 - 1 interpres present near traplines in Voth Area. Voice - kwhk.

1830 - the turnstone was found in snap trap 1.2 IIIA.

June 20 Another turnstone seen in the vicinity of the snap traps.

June 24 Holmer and I saw 3 interpres in the area between Ukpiik and Wohlshlagshv. iglu.

Sullivan, J.
1961

Crocethia alba sanderling

Barrow, Alaska

June 17 near the Voth Area by trap lines III A, III B Holmes and I saw 2 sanderlings. Holmes pointed them out. These birds have a flashing white stripe in the wing.

Sullivan, J
1961

Ereunetes pusillus - semipalmated

Barrow, Alaska

- June 9 Voice - sounds like a motor, or airplane prop - a continuous noise. Central marsh w/ Holmes.
- June 11 walking along gas line - semipal calling + displaying.
- June 12 South of drum area. at least 3 birds singing.
- June 13 while placing live traps - heard the motor like song of pusillus.
- June 14 at live trap area near ARL, 2 semipals ran in front of wheel (distracted attempts). The birds crouched low to the ground and ran side by side 1-3 ft apart, 5 or 6 ft in front of the vehicle. (0815)
- June 15 A pair of pusillus were seen at live trap area.
- June 18 0840 - a pusillus was caught in a snap trap in line III A.
- July 13 Pitt Point, Alaska - a semipal. displayed this afternoon by a lake south of the station. Sunny and some wind.
- July 14 Pitt Point - 3 more semipals. giving a half-hearted display at Dry Lake today. Flew up all at once fluttered, sang, drifted down separately.

Ereunetes pusillus

Sullivan, J.
1962

23 June Wainwright, Alaska

Semipalmated s. are common around the site. Display flight frequently seen, - song heard. "Electric motor" song commonly heard.

Ereunetes mauri

Sullivan, J.
1962

22 June Wainwright, Alaska

Hall saw a weatern while we were setting out traps on line IV.

25 June Wainwright, Alaska

A weatern taken in the snap trap on line IV.
Put in freezer with lemmings for return to Barrow as a specimen.

Sullivan, J
1961

Barrow, Alaska *Erolia fuscicollis* white-rumped s.

June 10

South of ARL toward Barrow village

These birds are somewhat unusual at Barrow,
and should be watched for. The only peep w/
a completely white rump.

June 20

Holmes spotted a fuscicollis on his census
plot as we walked over it this morning.

Sullivan, J.

1961


Erolia bairdii Baird's.

- June 9 Scaly, dark legs, bill song: purr purr, often given while hovering in air - wing fluttering.
- June 13 A bairdii was captured in one of the snap traps in row 1X (0815)
- June 15 Inspected a bairdii nest which was pointed out to me by Holmes. Holmes and I watched as the ♀ tried to distract us. She fanned her tail and let her wings droop a little. Plaintive "peeps" were emitted constantly. 4 reddish and brown mottled eggs were in the nest (a depression on the tundra). The nest is located about $\frac{3}{4}$ of a mile from the A R R near the beach road. Before arriving at the A A C S Bldg there is a "road" leading off to the north toward central marsh. A white post is just west of this "road," to the east is a stake. The nest is within 3 ft. of the stake.
- July 9 Pitt Point, Alaska - a pair of Baird's. were feeding around a marshy area southwest of the station. I shot one of the pair - the other flew near calling.

Sullivan, J.
1961

Erolia melanotos Pectoral r.

Barrow, Alaska

- June 9 With Holmes at central marsh - saw the Pectorals and heard song: "oop oop oop" markings: heavy breast striking - ends abruptly against white belly.
- June 11 walking just to west of central marsh - heard the oop oop song. Saw the pectoral r. w/ air sacs much inflated flying along calling.  At least 3 different birds called in this particular area. also heard 1 call later in afternoon (4:30) south of the drum area.
- June 17 While Holmes and I were setting out trapline III A + III B north of Vothki Area, a pectoral displayed and sang very close to us. These are unusual sandpipers - they one stood still for intervals and then would inflate its chest and fly low "oop ooping". The bird continued this throughout the trap setting time (1530-1630).
- June 18 1850 - While checking trapline III B, I saw a ♂ pectoral standing on an elevated clump of tundra just south of the trapline. His chest appeared partially inflated. The bird permitted close approach, and it turned out that his right

Sullivan, J.
1961

Erolia melanotos

leg was missing. He hopped about a little on the left leg with no apparent difficulty. The bird appeared in good health; he flew a short distance and hopped on the leg a little - then resumed standing - again on an elevated clump.

June 19 A pectoral ♂ was present near the traplines (2 legged). This bird allowed close approach.

June 21 While making a census along the gasline this morning I saw 2 pectoral sandpipers charging in flight. They alighted on a high polygon some 40 yards away. One stood very high (an aggressive ♂). The birds walked out of sight into the polygon area.

June 27 Put up a specimen that was shot on June 25. Apparently there was some molt in progress on the body. Pinfeathers were in evidence.

Bands of ♂♂ (?) pectorals are now seen scattered over the tundra feeding, preening, and loafing. Apparently the pairs found earlier on the ♀♀ are incubating.

July 6 Flocks of pectorals are not so much in evidence in central marsh now, Holmer saw a flock this afternoon.

July 12 Pitt Point, Alaska - Pectorals in small flocks here. Took one specimen. This bird was molting (see catalog).

Erolia melanotos

Sullivan, J.
1962

25 June Wainwright, Alaska

Pectorals seen quite commonly. Also a number of ♂♂ displaying - flying with air sacs expanded giving their hooting call. Also some groups of 3-4 or 5 birds flying together.

Sullivan, J.
1961

Erolia alpina Red-backed r.

June 9 Br. plumage - rusty-red back, black belly patch.
w/ Holmer in vicinity of central marsh.
a number of alpinas.

June 10 Holmer shot a ♀ alpina made specimen
Brood patch just beginning

June 12 while checking snap traps. watched
an alpina feeding, then bathing and preening
in a small pond. Probed deeply with bill to feed.
Placed head in water and splashed water over
its back while bathing. Preening - did a lot of
probing in its breast w/ bill. Scratched itself
w/ left leg twice. Flew up about a foot and
ruffled its feathers on alighting after completing
bath.

June 14 1945 or flight display + song. He ascended to
about 100 ft, there hovered his wings and
sang, "Kraw Kraw Kraw". This lasted
for some 20 seconds.

June 18 0900 - A redbacked r. was caught in a snap trap in
line III B. I shot another 200 yards SW of the
receiver sight. A 3rd alpina was shot at 1910
in the Voth Area.

June 24 Took 5 specimens this morning in the area between

Sullivan, J.
1961

Erolia alpina

Ukpik and Wohlchlag Sloughs.

July 5 Ran down and captured a chick this afternoon. It lifted its wings and ran - "peeping". Was taken for a specimen. Chamberlain and I shot 2 r-b.s. this afternoon; they were feeding along the edge of a wet marshy area.

Erolia alpina

Sullivan, J.
1962

23 June Wainwright, Alaska

Red-back common here - bell-like call heard frequently. Nesting activity going on -

Sullivan, J.

1961

Limnospiza scolopacea. dowitchi

Barrow, Alaska

June 9 Buffy color. long bill. w/ Holmes - central
marsh.

Limnodromus scolopaceus

Sullivan, J.
1962

23 June Wainwright, Alaska

with Hines - saw a dowitcher near trap line III,
not far from the low pools close to III (and
between it and line II). Bird alighted
near us -

Sullivan, J.
1961

Phalaropus fulicarius

Barrow, Alaska

- June 9 The red phalaropes are already paired. On trips with Holmes along beach ridge + central marsh observed many of this species. They are not particularly alarmed by the approach of the weasel. The bill of the red phalarope is shorter and blunter than that of the other two.
- June 10 Shot a ♀. This bird was mounted (see catalog). The bird was feeding in a wet area.
- June 13 Two ♀♀ in a pond feeding in proximity to one another. Has the ♂ started incubation? The birds seemed to be "picking" at their food.
- June 14 1830 A pair was seen feeding in a shallow tundra pond. Swam about probing with their bills. Then the ♀ bathed. She used a rocking horse motion; when her head was down she splashed water over her back. When finished she ruffled her feathers, flew up about 1 ft.; then flew to the bank (about 18 in from bathing spot). The ♂ had begun to bathe in a similar manner before the ♀ had finished. After his bath, the ♂ joined his mate. They stood on the bank preening. The bill was used to probe the breast feathers and around the wing. A golden plover approached within 3 ft. while the pair was preening. The plover fed, and the phalaropes ignored it. at intervals the plover raised its head and

Sullivan, J.
1961

Phalaropus fulicarius

stare at the pair for a second or two. After about 1 minute of feeding in proximity to the pair, the plover wandered off.

A single ♀ flew up and landed in the water about 6 feet from the pair. The mated ♀ flew at the new arrival, at about 1 ft from the bird in the water, the mated ♀ hovered in the air and let out an "ey ey". The single ♀ flew about 100 ft to the west and settled in a pond. After a minute or two, she returned to the pair. This time she landed on the bank about 2 feet from them. The ♂ this time flew at the new ♀, and repeated the hover and call. The ♀ once again flew off; this time out of sight. The mated pair after feeding a little longer flew off to the SW and were lost to view. This occurred at about $\frac{1}{2}$ mile from the AACs (receiveright) in a small pond about 20 ft from a sharp bend in the gas line.

1840 on beach ridge, near trap line X, I observed a pair of fulicarius feeding in a small pond. I approached within 25 feet of the birds. The birds gave a few "peep" calls (alarm note), but resumed feeding - on the far side of the little pond. They fed while swimming & probing

Sullivan, J
1961

Phalaropus fulicarius

into the water with their bills, and also on the shore - also probing. The ♂ flew about 25 yards to another pool, calling "peep peep" as he flew. The ♀ remained and continued to feed; the ♂ began feeding in the other pool. The ♀ called loudly a few times (contact). The birds were separated when I left, after some 5 minute observation.

June 15 While inspecting traps on beach ridge (0800-0830 - lines $\overline{IX} + \overline{X}$) I observed a pair of fulicarius feeding in a small pond. ♂ probed with his bill, and also walked along shore probing with bill. The ♀ swam about probing in the water with her bill. Soon she began to spin about, feeding as she spun. The ♂ did not feed in this manner. Another ♀ landed in the water about 5 yards from the pair; she began to feed. The ♂ after $1\frac{1}{2}$ minutes from the time of arrival of the new ♀ flew over beside her. I expected a chase, but none occurred. The 3 birds fed together; the 3rd was tolerated. The ♂ moved closer to the original ♀ present and fed near her. The original ♀ flew off, and was soon followed by the ♂, both flew out of sight. The 3rd bird soon flew off as well. A 15 mph wind was blowing and some fog was present. The sky was overcast.

Sullivan, J.
1961

Phalaropus fulicarius

a ♀ fulicarius was found in a snap trap, 3.0 row X. She was stiff, and had covered her face by her wings. Sometime after capture, the bird had laid an egg. It lay nearly, the shell was somewhat soft, and the egg had a hole in it. The bird had been caught across the face and bill; the bill was broken and an eye was injured.

June 17

Holmes found a fulicarius nest while setting traplines, next to 2.6 line. Four reddish mottled eggs were present. I took a ♀ soon after using no. 9 shot - which was too powerful for the distance (12 ft.).

June 18

0820 - while checking traps, I observed the nest for a few minutes. The ♂ was incubating. His feather appeared very dingy. A ♀ stood about 5 ft from the nest. A 2nd ♂ flew in and landed about 2 ft from the ♀. She seemed to be crouching and rising, and moving her tail from side to side. The ♂ flew above the ♀ and hovered there (8 in away) as if to mount. He remained above her for 3 or 4 seconds. This procedure was repeated. About this time, I emitted a little cheer, alarmed the birds inadvertently, the ♂ and ♀

Sullivan, J.
1961

Phalaropus fulicarius

flew off. The incubating ♂ who had left his nest in the meanwhile, began to rustle off through the grass. I inspected the nest - all seemed in order - the 4 eggs were there.

1845. This evening I observed a chase involving 1 ♂ and 2 ♀ *fulicarius*. The ♂ led; the ♀♀ followed. One ♀ was always just behind the ♂; the other ♀ a little farther back. Whether or not this was always the same ♀, I could not tell. The chase was energetic the birds circled and dipped - flew up and down. The nest by 3.6 line III B is still in the same condition - 4 eggs - all okay.

June 19 0900 - the ♂ flew off the nest by 3.6 III B as I approached. He flew off to the north past 2 small pools before alighting. The 4 eggs appeared the same.

June 20 Holmer and I watched 4 (♀♀?) *phalaropus* engage in what appeared to be combat. The birds stood on the ground then fluttered up 2 or 3 feet. This continued for a minute or so - then the birds flew off.

June 24 ♀ *phalaropus* were seen in groups of 7 and 8 this morning (2 flocks).

July 12 Pitt Point, Alaska - large flocks of red *phalaropus* here 30-40 per flock - flying and feeding together.

Sullivan, J.
1961

Stercorarius pomarinus - pomarine jaeger
Barrow, Alaska
June 9 June 9, 1961 vicinity of central marsh.
hunts alone. flies over area searching.

June 11 5 on water to south of central marsh
1 was sitting on ice, others standing in shallow
water close by. 3 flew off; 2 of these returned.

June 12 With Chamberlain - saw 8 pomarine jaegers
in central marsh. 2 groups of 2 birds each
+ 4 together.

June 13 1 flew over while putting out live traps -
flying west toward ARL. Jaegers at Barrow
are apparently of the light color phase.

June 15 Along beach ridge - 3 pomarinus flew by
(singly) between 0745 and 0830.

June 18 1820 - a dark phase bird flew over Family
Lagoon. Holmes and I watched him - on the way to
check traps.

Stercorarius pomarinus

John O. Sullivan
Barrow, Alaska
1962

- 9 June A pomarine jaeger flew over at about 1400, while in drum area. Flew toward beach ridge - followed it with glasses - looked like 3 more of same spp. farther off flying in same direction.
- 12 June 1st jaeger seen with lemming beyond Beach Ridge toward Wopluklag. Bird sat on snow - tearing fur off the lemming. Was joined by a 2nd jaeger after about 1 minute. The 2nd bird approached to within 1 foot or so - posture: stood up straight facing away from bird with lemming. After 30 seconds or so faced bird with lemming and they began to pull and tear at it. Also would drop it, then one would pick then drop again, and let the other pick. 2 intestines soon visible to us and were eaten. One of the jaegers was toward the melanistic. After feeding, this one flew to nearby pond and drank. A 3rd jaeger flew to the spot on the snow where the 2 had been (1 remained with part of the lemming). The new jaeger attempted to take the remains of the lemming, but was unsuccessful. The dark jaeger flew over (from the pond and swallowed what remained of the lemming. While swallowing the lemming, this jaeger was threatened by the newcomer.

Stercorarius pomarinus

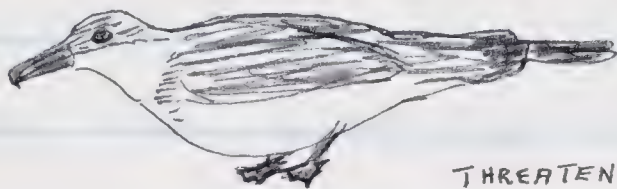
Sullivan.

1962

Barrow, Alaska

12 June (cont.)

Cries: Eeengh Eeengh —



Low Crouch



THREATENING ATTITUDES Stretched High

A 4th jaeger (possibly paired with no. 3) arrived on the scene. There 2 newcomers (I think) threatened the melanistic bird. The other jaeger (of the melanistic pair) looked on. After less than a minute of threat, all 4 took wing. Soon split into pairs — and landed apart. One jaeger returned to the site where the Lemming had been eaten.

Jaegers also seen at: Beach Ridge (1); Central March (1), bottom of B. Ridge toward March (1).

14 June

Pomarine commonly seen on the way to Ikroavik today. Some flying over tundra — apparently hunting. Some sitting hunched up on moraine.

2100. Kiser and I watched 6 pomarine picking at a white elongate object (which turned out to be a stick bone).

22 June

Wainwright, Alaska

4 pomarine jaegers seen near Teapline. Kiser saw a long-tailed.

23 June

Wainwright, Alaska

Sticcorarius pomarinus

Sullivan, J.
1962

Barrow, Alaska

Pomarine flying about tundra (single for the most part) - no nests seen.

28 June

Pitt Point, Alaska

1 pomarine seen from trap lines near station

Sullivan, J.

1961

Stercorarius parasiticus - parasitic jaeger

Barrow, Alaska

June 10 June 10, 1961 - south of AKL one bird (light phase) on ground - walking about - apparently hunting lemmings - probed about with beak a little. Flew short distance - 15 yds. Resumed hunt. Smaller than pomarine.

June 19 Voth area - 2 parasitic.

June 25 A dark phase parasitic was seen loafing with a long-tailed jaeger.

June 27 2 parasitic and a long-tailed jaeger were in vicinity of the gas line this morning.

July 6 Chamberlain and I saw a dark and a light phase bird past Wohlschlag Slough today. They appeared to be loafing. Flew a short way off when we neared.

July 7 Good sized flock of parasitic + l.t. in central marsh today 10-14 birds.

Stercorarius parasiticus

Sullivan, J.
1962

- 23 June Wainwright, Alaska
3 birds in company with one another - one
dark phase, 2 light. Hunting together -
patrolling tundra.
- 28 June 1 seen near station Pitt Point, Alaska
- 29 June Pitt Point, Alaska
1 more parasitic

Sullivan, J.

1961

Barrow, Alaska

Stercorarius longicaudus

June 22 0810 While at live trap set II a long-tailed jaeger flew past heading in the direction of the gas line ridge and central marsh.

June 24 1030 Holmes and I watched a long-tailed and 2 parasitic jaegers toying with a piece of food. One of the parasitics finally swallowed it - after being chased by the other birds.

Sullivan, J

1961

June 10

Larus hyperboreus - glaucous gull

Barrow, Alaska

June 10, 1961 South of ARL - single bird flew over very white - "chalky". Mullan had captured one previously - now at ARL. - had been in a fox trap - one leg injured.

June 13

4 flew by while checking snap traps - flying east.

11:15 AM. Chamberlain

Took a blood sample from the captive bird. Clipped nail off one toe. I held bird. C. squeezed the toe to obtain blood. Bird was then liberated outside lab. It flew weakly and crashed in nearby puddle. Then the bird drank thirstily. Walked off in eastward direction - appeared weak. I threw a block of wood at the bird but it did not fly - continued to walk away.

June 15

at 0810 4 hyperboreas flew past me on beach ridge in the direction of the ocean.

John O. Sullgren
Barrow, Alaska
1962

Larus hyperboreus

- 8 June. 2 sitting on an open pond in the drum area.
- 12 June. 3 dozen or more in central marsh - sitting on ice or snow around open water areas.
- 22 June. scattered glaucous gulls between Barrow and Wainwright.
- 25 June Wainwright, Alaska
Groups of gulls (3-5) flying over tundra in vicinity of traplines.
- 26 June Wainwright → Barrow, Alaska
Glaucous gulls scattered over tundra - some sitting around ponds.
- Pitt Point, Alaska
28 June 30-40 present on dry lake bed SE of station (± 1 mi).

Sullivan, J.
1961

Xema sabini

June 20 Barrow, Alaska. While fetching water for lunch for Holmer, Bokneack, and I at Holmer's wanigan Lake I kroavik, a sabini gull flew over. It dropped into the water nearby and captured a small fish then flew up and off.

Sullivan J.
1961

Sterna paradisaea

June 20 Barrow, Alaska. 2 arctic terns were seen in the vicinity of Lake Ikroavik.

July 9 Pitt Point, Alaska. disturbed a pair of arctic terns with a downy young. The adults begged me - swooping down and crying - see Journal.

Sullivan, J
1961

Nyctea scandiaca snowy owl

Barrow, Alaska

- June 9 w/ Holmes - central marsh. A ♀ (dark spots) flew to west across the marsh. The wing beat is slow and typically "owl-like".
- June 10 snowy owl flew overhead - owls do not seem to be nesting this year - lack of lemmings?
- June 14 While checking snap traps on beach ridge at 1850, I had a chance to observe a ♀ *Nyctea*. As I approached trap lines 1X and X in the weasel, the ♀ owl was seen flying low and away from row 1X trap 0.0, 0.2 or 0.4. She landed at about X - 7.0. I remained in the weasel, and peered out of the top hatch. Mists of fog occasionally obscured the bird from view, but as they cleared intermittently I had some good views of the owl. She stood upright on the ground and peered all about the tundra, particularly in my direction. I got out of the weasel and began to check traps. When I approached within 100 yards of the owl, she assumed an elongated posture - head forward, tail back, an apparent preparation for flight. She flew when I began to move forward again. The owl landed about 150 yards beyond the end of row X. As I again neared (100 yards)

Sullivan, J.
1961

Nyctea scandiaca

she flew off, this time about 300 yards to the east. There she alighted on a high polygon, and once again resumed a visual inspection of the tundra. The white bird stood out against the tawny ground, but did resemble a blotch of ice somewhat. Some small ice pockets are scattered about the tundra (as well as some large patches of snow). The owl remained on this high polygon when I left the trap lines. After melt-off is completed, the snowy owl should stand out.

June 17 While checking live traps near the gas line this morning a ♂ *scandiaca* flew by - from the direction of Family Lagoon toward Bush ridge.

June 20 Looked at about year's owl nest near Ikroavik Lake. It was on a little elevation, and was not much more than a depression. Owl pellets were scattered around the elevation.

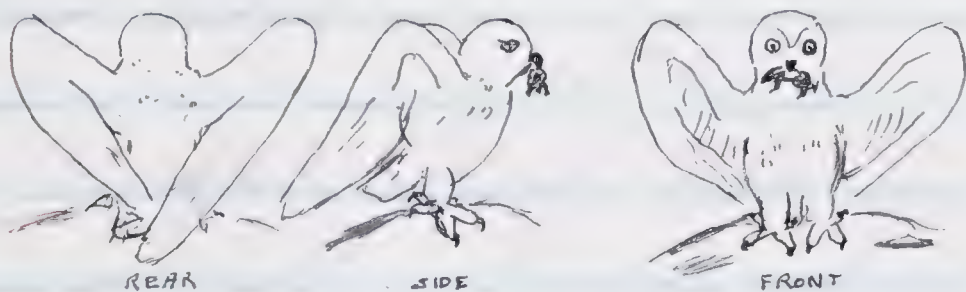
July 12 Pitt Point, Alaska - Saw 5 snowy owls at one time today - from 300 - 1000 yards south of the station.

Schubert, Sullivan
Barrow, Alaska
1962

Nyctea scandiaca

8 June. A pair of owls near gas line ridge.
Sitting on elevated mounds on the tundra.
Another pair in the drum area. W rove
quite close (80 yards) to the ♀. Food-hammering?

9 June 1530: Pair of owls by the drum area. ♂
gave "dracula" display with lemming in beak. Was
joined by ♀. The ♂ had flown to an elevated



spot on the
tundra with
a very slow
sort of moth-

like wing beat - the wings elevated and
slowly brought down - and up again. The
♀ joined the ♂; her flight was "normal."
(Mullen, Piper, Stevens and I watched from a vantage
about 100 yards away.) The ♂ kept his wings
elevated and thrust his head toward the ♀,
then withdrew it — this was repeated
a number of times. After about 5 minutes,
the ♀ took the lemming flap about 25 yards
further and ate it. After another 6 or 7
minutes, the ♂ flew off, but not far.

2030 - Stevens and I saw what I assumed
to be the same ♂, again in the drum area.
He had a lemming, and seemed to be
eating bits of it. He also stood up very

Nyctea scandiaca

John C. Sullivan
Barrow, Alaska
1962

straight and looked around the tundra.

12 June Owls sighted: 1 South of Voth Slough. 1 pair sitting together on Beach Ridge near Pitella's census plot. 1 sitting on Beach Ridge 200 yards East of the pair. 1 near Wohlshlag-Beach Ridge junction. 1 out in central marsh.

13 June 1 pair in central marsh beyond Beach Ridge. Single or near pipeline between Gas line + Beach Ridge.

22 June Barrow → Wainwright, Alaska

A handful of owls seen on the flight to Wainwright. 4 seen while setting out the traps.

25 June ^{Wainwright, Alaska} 6 owls seen from vicinity of site. Also a dead ♀ in a trash barrel by one of the huts. Younger men at the station shoot the birds for amusement. Seem to be a number of owls around - but found no nests - saw no courtship display.

Asio flammeus

Sullivan, J.
1962

Barrow, Alaska

17 June Flew east across far end of trap lines III-A, III-B this morning. Very accentuated wing beat -

Sullivan, J
1961

Calcarurus lapponicus lapland longspur

Barrow, Alaska

- June 9 Barrow. pair mottled over tundra. ♂♂ displaying, flying + singing. The ♂ bird has black and chestnut on the crown and neck.
- June 10 w/Holmes. nest south of ARL. 5 eggs. Marked nest w/ stake 3' to E. Parent birds came close (6ft) running about on ground. Pteron gives no. of eggs as 4-7 - clutch could be complete.
- June 13 2 ♂♂ *lapponicus* in snap trap.
- June 19 approached longspur nest in Voth Area. The ♀ was on the nest - frozen in an odd attitude. She flew off at closer approach (5ft). It is possible that the head was raised in order to get a better look at me.
-
- Frozen Attitude of
the ♀ longspur
at the nest.
- June 21 Observed a ♂ and a ♀ longspur feeding close to one another this morning. Soon another ♂ flew up and landed near the ♀. The male flew between the new ♂ and the ♀, and the new ♂ retreated. This was repeated 3 times. Finally the mated ♂ appeared to throw his chest out and run at the other ♂ on the ground. The latter took flight and was pursued in the air for about 10 yards. Then the ♂ returned to his ♀.
- July 5 Young longspur - flightless but out of the nest are now in evidence on the tundra.

2
Colaptes lapponicus

Sullivan, J.
1961

- July 14 Young longspurs are making short flights at
Pitt Point now.
- July 17 Barrow, Alaska - 2 juvenile longspurs flew
along the gas line, staying 20-25 feet ahead
of me, during the census this morning.

Sullivan, J
1961

Plectrophenax nivalis snow bunting

Barrow, Alaska

- June 9 Common birds around A R Land environs much white, more on ♂. The birds have black backs.
- June 14 Captured a ♀ snow bunting in live trap. The ♂ remained near calling. I had seen the ♂ standing alone among the traps as I approached in the wheel. The ♀ called upon release and flew wildly to the east. She was joined by the ♂, then both birds swung about and flew off to the west together.
- June 19 Captured a ♂ snow bunting on live trap set II (0830). Bird seemed in good health on release.
- June 21 The ♂ snow bunting sings on the ground as well as on the glide after his flight up. I noticed this on the canoe walk this morning.
- July 13 Juvenile snow buntings can now make short flights but are unsure of themselves. They attempt to cling to the sides of wanigans and usually slide off.

Sullivan, J.
1961

Lemmus trimucronatus. brown lemming

June 9

June 9, 1961 Barrow - a low in lemming number at present. M. Brewer + others had captured over 100 before arrival of Mullen. Mullen + Chamberlain captured 7 since arrival. beach ridge + central marsh - plenty of runways no lemmings spotted. 1 snowy owl + 3 prairie jaegers hunting around central marsh. also 1 arctic fox.

June 10, 1961 - south of ARL. tundra is thick with lemming droppings, but no lemmings seen. An old nest woven of grass + sedge seen. Also an old can with an ^{old} nest in it - many droppings in vicinity. Runways common - even seen cutting through ice under water.

June 11

South of drum area with Mullen + Holmes looking for an unusual duck seen by Mullen. I spotted a lemming running through the sedge, then swimming in shallow water. I grabbed the animal and gave it to Mullen. It was a pregnant ♀.

June 12

Barrow, Alaska. w/ Chamberlain on beach ridge. I caught one Lemmus - running through grass. Given to Mullen. PM - while setting snap traps - found 3 dead Lemmus in old traps. Additional dead L. near trap line.

Plectrophenax nivalis

Sullivan, J.

1962

Barrow, Alaska

- 17 June A pair of snow buntings are nesting in the wasegan at Lake Ikroavik. The nest is within the air vent - you can slide back a door from the inside and look right into the nest.
- 18 June High polygon area where Beach Ridge joins gas line (near live traps) - with Haines - saw a snow bunting (or) fluttering above a polygon. The bird was holding his position just above a small mound on the polygon. I thought he might be feeding a mate. Approached the nest, and the ♀ flew off. The pair remained in the area (within 25 yards). Found the nest under a mound on top of the polygon - 5 eggs.

Sullivan, J.
1961

Lemmus trimacronatus

2

- (2030)
June 13 captured 1 ♂ Lemmus: 131 1.8 6 52.2g
animal appeared to be in good condition.
Saw a dead Lemmus in crouched position
that they are supposed to assume before
freezing to death. Carcass was old + rotten;
therefore, it was discarded.
2030 another ♂ Lemmus captured in trap
adjacent to that with the Lemming this morning.
- June 17 Set out 2 new trap lines tonight for Lemmus.
Lots of runways and droppings were present,
no live Lemmus were seen. One badly de-
composed specimen was discarded.
- June 18 Holmer and Bohraek captured a juv. ♂ Lemmus
in the Voth Area. I installed it in one of Muller's
tray-cages for observation. At capture it weighed
42.2g and was 131 mm in length. The Lemming fell
to cleaning itself within 15 minutes after being
placed in the cage. It was brought in at
1615. It sat up on its hind legs and rear and
stumbled over licking and pawing its pelvic
region. Sawdust was scattered liberally in the
cage, lab chow and lettuce + a water bottle
were added. The animal was observed eating
(both lettuce and lab chow) at 1745.
- June 20 Captured a ♀ Lemming on the way to Holmer wanigan

Sullivan, J.

1961

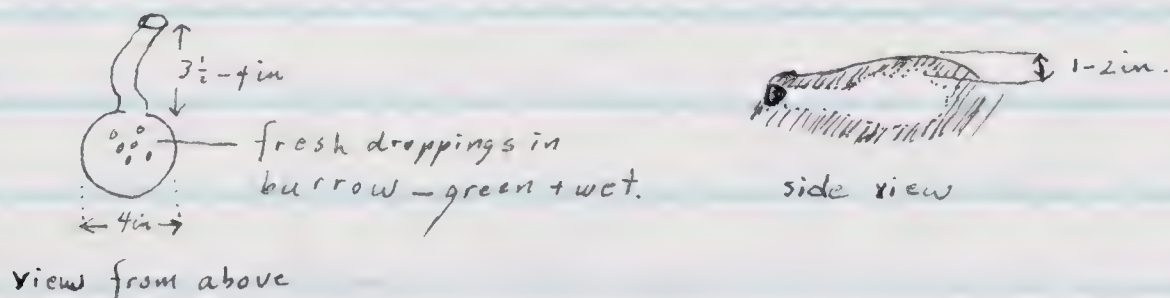
Barrow, Alaska

Lemmus trimucronatus

and I kroavik lake. I spotted it swimming through a flooded patch of tundra. It was turned over to Mullen.

June 21 The captive lemming began to hunch up and sit quietly in a corner of the cage at 11 AM. It did not respond to rattling the wire mesh above it. At 1300 the lemming was dead - Mullen received it.

June 27 0940 While watching a flock of oldsquaw on a lake between beach and gullline ridges, I noticed a lemming running along. It popped out of sight - I ran to the spot and found a burrow leading into an elevated piece of ground. I tore into it and found the lemming - a pregnant ♀ within. She ran for the outside but was captured and given to Mullen. The nest chamber was like this:



1430 Mullen and I captured another pregnant ♀ lemming. This one also ran into a hole, but was flushed as we began to dig into it.

July 10 Saw 2 lemmings at Pitt Point - about 200 and 500 yards west of the 2 oil tanks nearer the station. Marked and released one - 0000 adult ♂. Followed

Sullivan J
1961

Lemmus trimucronatus

the animal. It traveled a maximum distance of 165 feet (paced). This was with me following close behind. Trapping for the next 6 days in this particular area (15 live traps - 20 feet apart) failed to recapture this animal. Home range was larger than that indicated by following (or was changed by the lemming as it fell prey to a carnivore). The lemming fed in this manner: it clipped grass shoots near the base, grasped them in its forepaw, and ate from base to apex. I watched it feed from a distance of a few feet. The animal (probably aware of my presence) fed with its hind quarters remaining in a burrow. The lemming stretched itself to obtain the blades of grass. Escape technique: when hotly pursued, the animal ran as fast as its short legs and the tall grass would permit. It stayed largely in runways - and would dodge into a burrow frequently. When expelled from a burrow it ran a few feet then flattened out and lay still in a runway. I watched. Soon it began to sneak away - after a few feet, it ran again. I would guess that a fox, owl, or jaeger would have little difficulty in capturing these animals. If the lemming made it to a burrow, an

Lemmus trimucronatus

Sullivan, J.
1961

avian predator might be stymied - but a fox ought to be able to secure it. However, most of the torn open burrows that I recall encountering have been the work of man as far as I could tell. (see also - Journal).

July 12 Captured an adult ♀ Lemmus in the same general area described above. Decided to bring this animal back to Barrow. Placed her in a waste can and supplied her with: Lab Chow, lettuce, celery + apples. Mammary were not prominent, a little blood around vagina - but no copulation plug evident. Animal seemed to do all right in captivity.

July 15 Placed above Lemmus in the animal house.

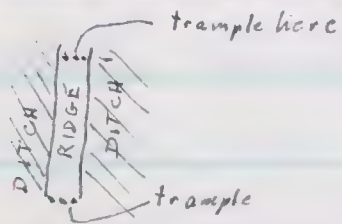
Lemmus trimucronatus

John C. Sullivan
Barrow, Alaska
1962

8 June Lemmings seem to be scarce at present. Mullen has 4 of them in the animal colony.

9 June Cade and Maher had captured some lemmings in the drum area by turning over the snow with shovels - uncovering - and grabbing the animals. Mullen, Pieper, Stevens, and I tried it this afternoon. We turned over shovelfuls - which were melted and fairly soft - the day was very clear, sunny and warm (around 40°). The hunt was successful: 10 lemmings were captured. (from around 1600 - 1700). Stevens and I went out again after supper and caught 7 more in this way + 2 in the live traps - total of 9. (19 for the day).

The drum area is circumscribed by shallow ditches (wet) with slightly higher (dry) ridges in between. The lemmings were under the snow on the ridges. Stevens and I developed a couple of new elaborations on the method: Trample down the snow



from one ditch to another, isolating a portion of ridge - by collapsing connecting tunnels.

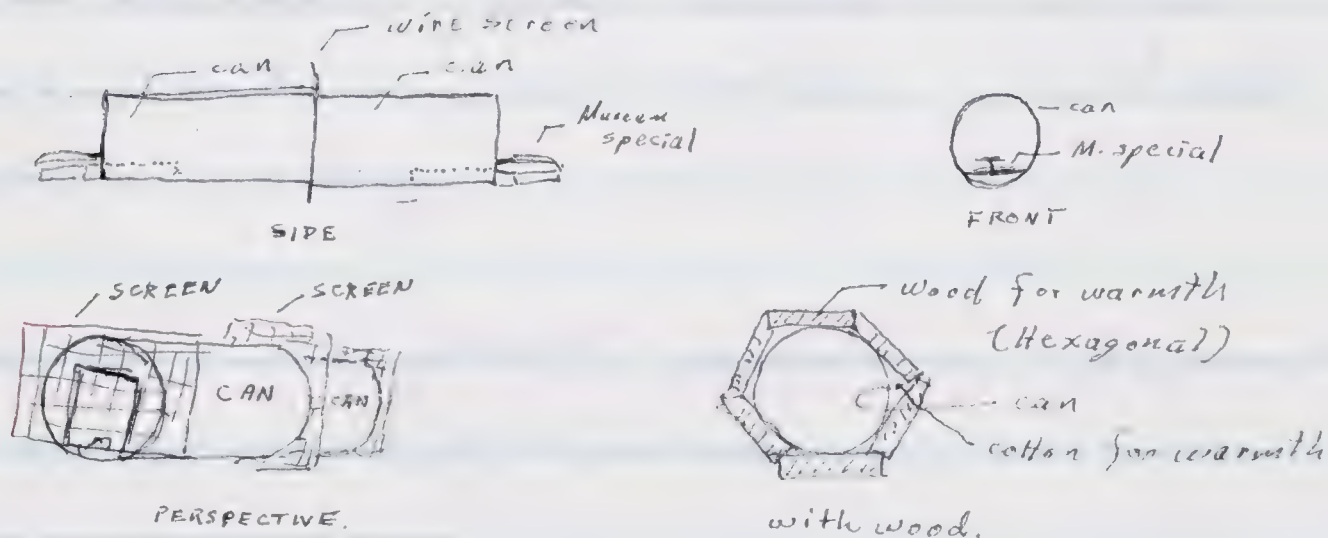
Then turn over the snow in between. This was fairly successful. Also have one dig at one end - the second watch at the far end

Lemmus trimacronatus

John P. Sullivan
Barrow, Alaska
1962

9 June (cont.) Frequently, lemmings could be spotted scurrying away from the digging.

The results of today's work: 19 lemmings captured - 17 with shovels, 2 in live traps - makes me wonder about the effectiveness of our traps. Perhaps a tube-trap that could be placed right in a runway would be more useful. A possibility:



Even for live-trapping work this type of trap could be placed in runways within a certain distance of a stake. — but then why not place our rectangular traps — back to back — in the runways? —

10 June This afternoon Mullen, Piper, Stevens and I again hunted lemmings in the drum area with shovels. 24 taken: 10 blood samples, 12 for colony, 2 accidental deaths.

11 June 1 ad ♂ in live traps.

13 June 1 ad ♂ Lemmus captured just beyond Beach Ridge near gun line.

Sullivan, J.
1961

Alopex lagopus - arctic fox

Barrow, Alaska

June 9

June 9, 1961 - one animal - north of central marsh.

Part white - dark (blackish). Face black, rump saddle black. Holmer + I in weasel - as we approached, fox ran, then stopped ^{when} we stopped. Fox sat and looked back at us. We started again, fox ran toward Elson Lagoon, stopped a couple more times - then disappeared over north ridge. Foxes den and raise pups inland; come to Barrow in fall + winter. The fox appeared to be in good condition. Tail held low when running.

June 10

June 10, 1961 south of ARL - droppings - fur present in droppings - probably Lemmings.

June 15

While driving a weasel along the gasline (0835), I saw a white furry object lying on the tundra grass. I drove over to it, and climbed out to look - it was a fox tail. It was brought in to the lab.

June 19

Checked traplines III A + III B (1800-1930). Saw a fox between trap lines + towers. It was parti-colored dark + white, and ran briskly along - hunting.

June 24

Between Ukpiak and Woloshlag Sloughs 0900 - Holmer and I saw a fox hunting. The coat was nearly turned to summer brown. Spots of white remained on rump, shoulder, neck, tail. The animal trotted

Alopex lagopus

Sullivan, J.
1961

Barrow, Alaska to and fro - searching for prey. Tail seems to almost drag on the ground; nose also low to the ground. At intervals, the fox "galloped" head then rump up.

July 9 Pitt Point, Alaska. Walked up close to a sleeping fox today (about 75 yards from it). The fox looked up a couple of times - then loped away - (see journal). It had a "nurt" behind an oil drum, which blocked the wind. The spot was dry, and the grass thick - appeared comfortable for the fox.

July 18 Barrow, Alaska While making bird census walk this morning, I saw an arctic fox hunting. The animal loped along in a bouncy fashion - head then rump up. It seemed to be after young snow buntings. At a distance of 150 yards it looked as if adult s. buntings were attempting to distract the fox. Did not see any captures. Fox shifted direction rapidly a time or two, eventually crossed the gas line then loped out of sight beyond bar line ridge.

Sullivan, J.
1961

Gulo luscus

- June 9 Barrow, Alaska. 2 wolverines are kept in a cage outside our lab. Cages are of iron. Nest box with straw is provided. Water trough is placed 1 ft. above floor of cage. Animals are in separate cages. Apparently the animals are kept here to show to visitors - not for experimental purposes.
- June 14 Put up bird skins this afternoon; fed the carcasses to the wolverines. Entire body of a longspur was eaten. Animal later took birch from the hand.

Sullivan, J
1961

Mustela vison

Barrow, Alaska

June 17 a least weasel was seen in the camp area by one of the fellows in the office. He was sitting still and the animal came out of a discarded exhaust pipe. He attempted to capture the animal but it escaped.

July 20 John Workman saw a weasel in the camp today.

Sullivan, J.
1961

Erignathus barbatus

June 18 Barrow, Alaska. A bearded seal, that had been shot through the head, was tied to an eskimo boat alongside the road to Barrow Village. The animal was good sized, perhaps 8 feet long.

Sullivan, J.
1961

Phoca hispida

June 16 A ringed seal was seen lodged on the roof of a shack in Barrow Village. Temperatures are apparently cool enough to keep the meat for a few days.

Sullivan, J.
1961

Phoca vitulina

June 18 Barrow, Alaska. In an area where the water flows across the road (cutting it) from Family Lagoon to the ocean there was an eskimo boat with 2 seals by it. The smaller was a harbor seal (about $3\frac{1}{2}$ feet long); the other a bearded seal. The eskimoes are reported to favor seal meat above others.

